Supreme Court, U. S.
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APPENDIX

IN THE

Supreme Court of the United States

OCTOBER TERM, 1975

No. 75-628

CURTIS CRAIG,
and
CAROLYN WHITENER
d/b/a "The Honk and Holler,"
Appellants,

vs.

Hon. DAVID BOREN, Governor,
State of Oklahoma,
et al.,
Appellees.

APPEAL FROM THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF OKLAHOMA

Jurisdictional Statement Filed October 28, 1975
Probable Jurisdiction Noted January 12, 1976

WAYNE R. SCOTT CO., 507 S. QUAKER, TULSA, OK 74120 - (918) 587-2052

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STATEMENT OF COUNSEL

This Single Appendix has been prepared through the joint efforts of counsel for both sides to this Appeal. In view of Supreme Court Rule 36(2), that the entire Record is always available for inspection, and that a supplemental appendix may be submitted as a safeguard against surprise and to further the interests of justice, this Single Appendix does not, therefore, purport to be a reproduction of the entire Record herein.

By the same token, the inclusion of some particular item or items herein means no more than that one side or the other, not necessarily both, desires to call the Court's attention thereto. Such item's or items' inclusion herein does not, therefore, constitute a stipulation that the formal Record herein actually includes such item or items, nor does such inclusion herein constitute a waiver of any objection that either side or the other might have thereto.

The Attorneys

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ITEM 1 — DOCKET ENTRIES — W.D. OKLA. CIV-72-867 (EXTRACT)

12-20-72 Filed Complaint

1-10-73 Filed dfts' Mtn to Dism for Failure to State Claim w/attached Brf — w/s

2-1-73 Filed plfs' Response to dfts' Rule 12 (B)(6) Mtn to Dism — w/s

2-14-73 Filed and entered Order of Dismissal — THAT compl. is dism'd as to all parties (findings: Ct w/o jurisd. as compl. does not state claim upon which relief can be granted & state law is valid exercise of State's power) (Chandler) (COB # 98) (Clerk) (copies mailed — ro)

3-15-73 (Posted to docket sheet 3-22-73) Plfs' Notice(s) of Appeal and/or Application for Writ of Mandamus from jdgmt entered Feb. 13, 1973, filed Feb. 14, 1973 (record due in CC of A 4-24-73)

11-16-73 Rec'd Opinion & Mandate

11-16-73 Filed copy of Opinion

11-16-73 Filed cert copy of Mandate (order granting mtn to dism is vacated & case remanded for further proceedings consistent w/Opinion; alt. relief req'd by appellants is denied w/observation that our disposition of appeal should not be construed as any indication of our thoughts re merits of case or defenses raised thereto) (Clark, Lewis, & Hill)

12-6-73 Filed Order that Court (Three Judge) be constituted as follows: Hon. Wm. J. Holloway, Jr., U.S. Circuit Judge; Hon. Frederick A.

Daugherty, U.S. Dist. Judge; and Hon. Luther B. Eubanks, U.S. Dist. Judge (dated Dec. 3, 1973) (David T. Lewis, Chief Judge, U.S. Ct. of Appeals = 10th Circuit)

12-6-73 Enter Order, case set for pretrial on Mon., Dec. 17, 1973, 3:30 p.m. (Daugherty)

12-10-73 Enter Order Plf's Motion for Thre4 Judge Panel is satisfied by such panel being convened (Daugherty) cnsl ntf ve

12-13-73 Filed Order overruling defts' Motion to Dismiss; defts to file Ans. on or before 12-14-73 (Holloway, Daugherty & Eubanks) copies to cnsl and judges — ve

12-14-73 Filed Answer of defts' w/s copies to judges — ve

12-17-73 Ent Pretrial hrg: case pretried; to be tried before 3 judge ct.; deft. to file substitution of parties; plf's mtn to add addl. plf granted; plf's request for atty fee abandoned; plf to file br w/in 5 days re burden of proof; deft to answer 10 days thereafter (Daugherty) ve

12-26-73 Filed Plf's Memo. on Burden of Estab. Constit. & tests for Constitutionality w/s/ copies to judges — ve

1-2-74 Filed dfts' Memo. on Burden of Proof & Constitutionality of State Statutes — w/s

1-11-74 Filed plfs' Reply Memo. on Burdens of Proof & Tests for Constitutionality — w/s

2-5-74 Filed First Pretrial Order (Holloway, Daugherty, & Eubanks)

5-3-74 Enter Order case set for trial before the Hon. Wm. J. Holloway, Jr., U.S. Circuit Judge,

Hon. Fred Daugherty, Chief Judge U.S. Dist. Court and Hon. Luther B. Eubanks, U.S. Dist. Judge, on Monday 20, 1974 at 9:30 a.m. in Courtroom No. 1. (Daugherty) cnsl., A.G. and Gov. David Hall ntf by cert. mail) ve

5-7-74 Filed Plf's Motion to Add Addl Party Plf w/s

5-8-74 Filed Order allowing Curtis Lee Craig to be added as addl party plf (Judges Holloway, Daugherty & Eubanks) copies to cnsl and Judges ve

5-14-74 Filed copy of ltr from Court to Counsel advising that burden of proof rests on the dfts (Daugherty) copy to Judges Holloway & Eubanks

5-16-74 Filed dfts Motion for Substitution of Parties w/s/

5-17-74 Filed Order Substituting Parties Defendant; D. M. Berry, Chairman, L. L. Leininger, Vice Chairman, and J. L. Merrill, Secretary, all officials of the Okla. Tax Comm., are substituted as parties dft (Holloway, Daugherty, & Eubanks) (COB # 103) (Clerk) (copies to parties & to Judges — ve)

5-20-74 Ent. Non Jury Trial before 3-Judge Panel: Cnsl announce ready; opening stmts by cnsl; burden rests on dfts. Dfts present case in chief w/test of wtnses and Ex. 1-8 adm. Dfts rest. Plfs move for judgm. mtn denied; Plfs' present case in chief w/test of witnesses and Ex. 2, 3 & 4 being adm. All evidence in. Defts to file brief of authorities w/in 20 days; plfs reply br 15 days thereafter; may have

further arguments, if so, cnsl will be advised (Holloway, Daugherty & Eubanks) ve

6-17-74 Filed Dfts Brief as ordered at trial of 5-20-74 (copies to Judges — afj

7-23-74 Filed Plaintiffs Brief w/s Copies to Judges by wwm

8-20-74 Enter Order case set for oral arguments on Fri., Sept. 27, 1974, at 10:00 a.m. (Daugherty) cnsl ntf ve also Judges

9-27-74 Enter Hng on Oral Arguments: Arguments presented; dfts to respond to plf's Supplemental Brief w/in 10 days; case ill be consid subm at that time (Holloway, Daugherty & Eubanks) ve

9-27-74 Filed Plaintiff's Supplement to Brief w/s (copies to judges — ve)

10-3-74 Filed letter to Clerk from Atty for Plfs re status of Bassett v. Bassett (Okla. App., 1974) 521 P.2d 434. Copies to judges — ve

10-4-74 Filed Defts' Reply to the Suppl Brief of Plfs w/s/ copies to Judges — AJF

5-17-75 Filed and entered Judgment — THAT judg is ent'd adjudging that Okla. statutes in question, 37 OSA 241 and 245 are valid; that all relief sought by complaint is denied & action is dism'd (Holloway, Daugherty, & Eubanks) (COB # 108) (Clerk) (copies to parties ve)

5-17-75 Filed Memorandum Opinion (Holloway, Daugherty, & Eubanks)

5-27-75 Filed Plfs Motion for New Trial w/Memorandum — Motion for Extention of Time to File

Brief in Support w/s/ (copies to judges wwm)

6-24-75 Filed Plfs' Memorandum in Support of Mtn for New Trial w/s/ copy to judges ve

7-14-75 Filed Order Overruling Mtn for New Trial by plfs (Holloway, Daugherty, Eubanks) zmc ws

7-15-75 Filed dfts' Response to Plfs' Mtn for New Trial — ws

8-11-75 Filed plfs' Notice of Appeal to U.S. Sup. Ct. from jdgmt entered May 17, 1975, and order overrlng mtn for new trial July 14, 1975 — w/s (record due in U.S. Sup. Ct. Oct. 10, 1975) Copies to judges — jj

1-20-76 Filed cert copy of Supreme Ct's Notice of probable jurisdiction of Appeal (Michael Rodak, Jr., Clerk) (Sup. Ct # 75-628)

ITEM 2 — COMPLAINT (ENTIRE)

IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF OKLAHOMA

MARK WALKER,
and
CAROLYN WHITENER
d/b/a "The Honk and Holler,"
Plaintiffs,
vs.
Hon. DAVID HALL,
Governor,
State of Oklahoma,
[et al.],
Defendants.

No. CIV-72-867

FILED
DEC 20 1972
CLERK, U. S. DISTRICT COURT
Deputy

COMPLAINT

[1] **Jurisdictional Allegations**

1. This is a Federal civil-rights lawsuit brought under 42 U.S.C. 1983 for a declaratory judgment, 28 U.S.C. 2201, to adjudicate as violative of the Equal Protection Clause of the Fourteenth Amendment to the Constitution so much of the statutory scheme established by the Laws of Oklahoma, to wit, 37 O.S. 241-245, whereby male members — and male members *only* — of the class of all persons in the 18 to 21 year old age category are forbidden to be sold and to purchase 3.2% beer; for injunctive relief enjoining the enforcement of the said statutory discrimination imposed only upon male members of the class of all persons 18-21 years of age; for

attorney's fees and costs of this action; and for such further equitable and legal relief as to the Court might appear just and proper.

2. The Plaintiff Mark Walker is a natural person, a citizen of the United States and of the State of Oklahoma, and a resident of Stillwater, Payne County, Oklahoma, within the Western District of Oklahoma. The Plaintiff Walker is a member of the male sex; and was born on November 20, 1952, thereby making him presently twenty years of age, and at all times material herein a member of the class comprised of all persons 18-21 years of age. As appears more fully under the "Substantive Cause of Action" hereto, the Plaintiff Walker desires to purchase 3.2% beer for consumption in private.

3. The Plaintiff Carolyn Whitener is a natural person, a citizen of the United States and of the State of Oklahoma, and a resident of Stillwater, Oklahoma, within the Western District of Oklahoma. The Plaintiff Whitener does business as the "Honk and Holler" at 602 West Sixth Street, Stillwater, Oklahoma, within the Western District of Oklahoma. As appears more fully under the "Substantive Cause of Action" hereto, the Plaintiff Whitener is a licensed vendor of 3.2% beer, [2] and desires to sell 3.2% beer to males as well as other persons from amongst the class of persons 18-21 years of age for consumption off her premises.

4. The Plaintiff Walker, as a desiring and prospective 18-21 year old male purchaser of 3.2% beer, has standing to assert the rights of the Plaintiff Whitener, as a desiring and prospective vendor of 3.2% beer to 18-21 year old males; and vice versa.

5. The Defendant David Hall is a natural person, a

citizen of the United States and of the State of Oklahoma, and a resident of Oklahoma City, Oklahoma, within the Western District of Oklahoma. The Defendant Hall is further the Governor of the State of Oklahoma.

6. The Defendant Larry Derryberry is a natural person, a citizen of the United States and of the State of Oklahoma, and a resident of Oklahoma City, Oklahoma, within the Western District of Oklahoma. The Defendant Derryberry is further the Attorney General of the State of Oklahoma.

7. The Defendants Clarence L. DeWees, Lawton L. Leininger, and M. C. Connors are natural persons, citizens of the United States and of the State of Oklahoma, and residents of Oklahoma City, Oklahoma, within the Western District of Oklahoma. The Defendants DeWees, Leininger, and Connors are further the three members of the [three-man] Oklahoma Tax Commission, and in more particular are, respectively, the Chairman, the Vice-Chairman, and the Secretary thereof.

8. The Defendant Robert L. Hert is a natural person, a citizen of the United States and of the State of Oklahoma, and a resident of Stillwater, Oklahoma, within the Western District of Oklahoma. The Defendant Hert [3] is further the Presiding District Judge of the Ninth Judicial District Court of the State of Oklahoma, which Ninth Judicial District encompasses Payne and Logan Counties, Oklahoma, within the Western District of Oklahoma.

9. The Defendant Charles H. Headrick is a natural person, a citizen of the United States and of the State of Oklahoma, and a resident of Stillwater, Oklahoma, within the Western District of Oklahoma. The Defendant

Headrick is further the District Attorney for the Ninth Judicial District of the State of Oklahoma, which Ninth Judicial District encompasses Payne and Logan Counties, Oklahoma, within the Western District of Oklahoma.

10. The Defendant Rose Jarvis is a natural person, a citizen of the United States and of the State of Oklahoma, and a resident of Stillwater, Oklahoma, within the Western District of Oklahoma. The Defendant Jarvis is further the District Court Clerk of Payne County, State of Oklahoma, within the Western District of Oklahoma.

11. The Defendant Frank Phillips is a natural person, a citizen of the United States and of the State of Oklahoma, and a resident of Payne County, Oklahoma, within the Western District of Oklahoma. The Defendant Phillips is further the Sheriff of Payne County, Oklahoma, within the Western District of Oklahoma.

12. The Defendant Howard W. Hoyt is a natural person, a citizen of the United States and of the State of Oklahoma, and a resident of Stillwater, Oklahoma, within the Western District of Oklahoma. The Defendant Hoyt is further the Chief of Police of the City of Stillwater, Oklahoma, within the Western District of Oklahoma.

[4]

13. As appears more fully under the "Substantive Cause of Action" hereto, the monetary amount in controversy herein is in excess of Ten Thousand Dollars, exclusive of interest and costs; and the territorial situs of the wrongs complained of lies within the Western District of Oklahoma.

14. Jurisdiction over the subject-matter of this lawsuit

is conferred upon the U.S. District Court for the Western District of Oklahoma by 28 U.S.C. 1331, 1343(3), and 1343(4).

15. Venue over the subject-matter of this lawsuit is conferred upon the U.S. District Court for the Western District of Oklahoma by 28 U.S.C. 1391(b).

16. Venue over the Parties to this lawsuit is conferred upon the U.S. District Court for the Western District of Oklahoma by 28 U.S.C. 1391(b), 1392(a), and 1393(b).

17. A requirement to convene a three-judge district court to grant the injunctive relief prayed for by this lawsuit is imposed upon this Court herein by 28 U.S.C. 2281 et seq:

> (a) This action seeks, in substantial part, an injunction permanently enjoining various State officers, Defendants herein, from enforcing the unconstitutional discrimination based on sex contained in 37 O.S. 241-245.
>
> (b) The claim of the [un]constitutionality of the age-sex discrimination at bar herein constitutes a "substantial [and meritorious] Federal question" within the Tenth U.S. Circuit. *Lamb* v. *Brown* (10th Cir., 3/16/72) 456 F.2d 18. See also *Reed* v. *Reed* (1971) 404 U.S. 71, 30 L.Ed.2d 225, 92 S. Ct. 251.

[5]

> (c) No State criminal, quasi-criminal, or administrative prosecutions or proceedings are presently pending or contemplated against any of the Plaintiffs to this lawsuit. See Syl. 2a to *Lake Carriers' Assn.* v. *MacMullan* (5/30/72) _____ U.S. _____, 32 L. Ed. 2d 257, 92 S. Ct. 1749.

Substantive Cause of Action

18. All Jurisdictional Allegations are hereby incorporated herein by reference.

19. The Laws of Oklahoma, in relevant part, to wit, 37 O.S. 241 and 245, provide as follows:

> "241. Sale barter or gift to minor unlawful. — It shall be unlawful for any person who holds a license to sell and dispense beer and/or any agent, servant, or employee of said license holder to sell, barter or give to any minor any beverage containing more than one-half of one per cent of alcohol measured by volume and not more than three and two tenths (3.2) per cent of alcohol measured by weight. Provided, a parent as regards his own child or children, is excepted from the provisions of this Act."
>
> "245. "Minor" defined. — A "minor," for the purposes of Sections 241 and 243 of Title 37 of the Oklahoma Statutes, is defined as a female under the age of eighteen (18) years, and a male under the age of twenty-one (21) years."

20. Elsewhere within Chapter 2 to Title 37 of the Statutes of Oklahoma, various coercive and intimidatory administrative and criminal sanctions (e.g., revocation or cancellation of license, fine, and imprisonment) are specified for violations of the above-quoted statutory sections.

21. The purpose, intent, and effect of 37 O.S. 245, quoted above, and when taken in conjunction with 37 O.S. 241 and the other relevant portions of Chapter 2 to Title 37 of the Statutes of Oklahoma, is to take [6] the broad class comprised of all persons 18 to 21 years of age, and then to discriminate amongst the

persons included within this broad 18-21 year old class of persons solely upon the basis of their biological sex(es), by denying to members of the unfavored (i.e., male) sex within this age group the equal right to purchase 3.2% beer for private consumption as is freely recognized and allowed to and enjoyed by other persons of the favored (i.e., female) category within the same age group.

22. The State statutory discrimination herein, insofar as it purports to deny to males within the broad 18-21 year old age group the equal right to purchase 3.2% beer for private consumption, is invidious, arbitrary, irrational and capricious, and violates the civil rights of the said males in the broad 18-21 year old age group to the Equal Protection of the Laws as guaranteed by the Fourteenth Amendment to the Constitution, in that the said discrimination is illegally and wrongfully predicated solely upon the legislatively irrelevant, constitutionally impermissible and inherently suspect classification of said aggrieved persons' biological sex and reproductive anatomy, which biological and anatomical bases for legal classification regarding the purchase and consumption of 3.2% beer are totally lacking in all reasonable relationship to any legitimately permissible public policy or legislative end.

23. Because of the foregoing discriminatory State statutory scheme, the Plaintiff Walker, who is a member of the discriminated-against male sub-group of the main class of all persons 18-21 years of age, and is desirous and financially able to purchase 3.2% beer for consumption in private, nevertheless finds himself legally and effectively thwarted in his desire to do so. In particular, the Plaintiff Walker has on numerous occasions heretofore

contacted inter alia the Plaintiff Whitener, a licensed retail vendor or 3.2% beer doing business as the "Honk and Holler" [7] in Stillwater, Oklahoma, with a view towards making purchases of 3.2% beer from the said Plaintiff Whitener, who is personally desirous of selling such 3.2% beer to the Plaintiff Walker, but who nevertheless refuses to do so, to the Plaintiff Walker's extreme injury.

24. The reasons why the Plaintiff Whitener, although personally desirous to sell 3.2% beer to the Plaintiff Walker for consumption off the premises of the "Honk and Holler," nevertheless fails and refuses to do so (and likewise fears and declines to make any such sales to other male members of the class of all persons 18-21 years of age) are as follows:

a) The coercive and intimidatory effect against such sales engendered by the assailed discriminatory State stautory scheme outlined above, prohibiting the sale of 3.2% beer to male members of the class of all persons 18-21 years of age, and the administrative and criminal sanctions for violations thereof; and

b) The past, present, and threatened enforcement of the said discriminatory State statutory scheme assailed herein (and of the related administrative and criminal sanctions in support thereof) by the Defendants herein.

25. Regarding the past, present, and threatened enforcement of the assailed statutory discrimination by the Defendants herein, both Plaintiffs would in more particular allege as follows:

a) The Defendant David Hall, as Governor and chief

executive of the State of Oklahoma, executes all Oklahoma laws, including those herein assailed, throughout the State of Oklahoma.

[8]

b) The Defendant Larry Derryberry, as Attorney General and chief law enforcement officer of the State of Oklahoma, enforces all Oklahoma laws, including those assailed herein, throughout the State of Oklahoma.

c) The Defendant Frank Phillips, as Sheriff of Payne County, Oklahoma, enforces all Oklahoma laws, including those assailed herein, throughout Payne County, Oklahoma.

d) The Defendant Howard Hoyt, as Chief of Police of the City of Stillwater, Oklahoma, enforces all Oklahoma laws, including those assailed herein, throughout the said City of Stillwater, Oklahoma.

e) The Defendant Charles Headrick, as District Attorney for the State of Oklahoma within Payne County, Oklahoma, enforces all Oklahoma laws, including those assailed herein, throughout the said Payne County, Oklahoma; and further, the said Defendant Headrick, as District Attorney within Payne County, Oklahoma, also has specific duties under Oklahoma law, as contained more fully in Chapter 2 to Title 37 of the Statutes of Oklahoma, to enforce and administer the discriminatory State statutory scheme assailed herein.

f) The Defendants Clarence DeWees, Lawton Leininger, and M. C. Connors, as the members of the Oklahoma Tax Commission, have specific duties under Oklahoma law, as contained more fully in Chapter 2 to Title 37 of the Statutes of Oklahoma,

to enforce and administer the discriminatory State statutory scheme assailed herein.

[9]

g) The Defendant Robert Hert, as Presiding District Judge within Payne County, Oklahoma, has specific quasi-executive or administrative duties under Oklahoma law, as contained more fully in Chapter 2 to Title 37 of the Statutes of Oklahoma, to enforce and administer the discriminatory State statutory scheme assailed herein.

h) The Defendant Rose Jarvis, as District Court Clerk within Payne County Oklahoma, has specific quasi-executive or administrative duties under Oklahoma law, as contained more fully in Chapter 2 to Title 37 of the Statutes of Oklahoma, to enforce and administer the discriminatory State statutory scheme assailed herein.

26. The injury accruing to the Plaintiff Walker herein solely because of the legally irrelevant and constitutionally impermissible criteria of his biological sex and his reproductive anatomy is both physical and mental, to wit: the cruel denial of the physical benefits derivable from 3.2% beer; and the even crueler mental and emotional humiliation engendered by the degrading and inferior status publicly accorded him simply on the basis of irrelevant biological factors, not unlike those of race, over which he had and has no control. The monetary damage caused by the physical and mental injury herein, through difficult of precise estimation, exceeds Ten Thousand Dollars, exclusive of interest and costs; and because of the imprecise extent and recurring nature of the physical and mental injury herein, remedies at law are inadequate to protect the Plaintiff Walker

in his Federally-guaranteed Equal Protection civil right to purchase 3.2% beer for private consumption free from discrimination based on sex, or upon any other illegal criterion.

[10]

27. The injury accruing to the Plaintiff Whitener from the sexually-discriminatory statute at bar, in addition to the injury to the Plaintiff Walker outlined above and suffered derivatively by the Plaintiff Whitener, consists in the diminishment of her sales to persons in the 18-21 year old category occasioned by the unconstitutional exclusion from said category of the male members thereof as legally permissible vendees and customers — which illegal exclusion of males as permissible vendees and customers within the class of all persons 18-21 years of age has already damaged the Plaintiff Whitener over Ten Thousand Dollars, exclusive of interest and costs, in lost sales of 3.2% beer, and which sexually discriminatory exclusion of males as permissible vendees and customers from the class comprised of all persons 18-21 years of age will, unless enjoined, result in future damages and losses by the diminishment of sales of 3.2% beer, in excess of Ten Thousand Dollars, exclusive of interest and costs.

28. Remedies at law are inadequate to protect the Plaintiff Whitener against the threatened future-occuring violations of her individual and derivative Federally-guaranteed Equal Protection civil rights to sell 3.2% beer to all members of a specified age group irrespective of the unconstitutional criterion of sex; this for the reason that resort to legal remedies as each such threatened, future, and unless enjoined inevitable violation should occur would involve piecemeal, periodic, and repetitive applications to court — thereby resulting in the very

multiplicity of litigation classically enjoinable by a court of equity.

WHEREFORE, premises considered, Plaintiffs pray for:

A. A judicial declaration and determination that 37 O.S. 241 and 245, and all statutory sanctions deriving therefrom, be held and adjudicated [11] unconstitutional and void insofar as they purport to prohibit the purchase, possession, and private consumption of 3.2% beer by or the sale thereof to male persons included within the class of all persons 18 to 21 years of age;

B. An injunction enjoining the Defendants, and each of them, jointly and severally, and their subordinates and successors in office, from enforcing and/or attempting to enforce those portions of 37 O.S. 241 and 245, and the ancillary statutory sanctions thereto, which purport to prohibit the purchase, possession, and private consumption of 3.2% beer by or the sale thereof to male persons included within the class of all persons 18 to 21 years of age;

C. All costs of this action, to include a reasonable attorney's fee; and

D. Such further legal and equitable relief as to the Court may seem just and proper.

/s/ Fred Gilbert

FRED P. GILBERT
1401 National Bank of Tulsa Bldg.
Tulsa, Oklahoma
(918) 582-8201

Attorney for Plaintiffs

ITEM 3 — DEFENDANTS' MOTION TO DISMISS (EXTRACT)

IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF OKLAHOMA

MARK WALKER,
and
CAROLYN WHITENER
d/b/a "The Honk and Holler,"
Plaintiffs,
vs.
Hon. DAVID HALL,
Governor,
State of Oklahoma,
[et al.],
Defendants.

No. CIV-72-867

MOTION TO DISMISS FOR FAILURE TO STATE A CLAIM

The defendants move the Court as follows:

To dismiss the action because the Complaint fails to state a claim against defendants upon which relief can be granted. Argument and authorities supporting defendants' motion are contained in the brief attached hereto and made a part hereof.

Respectfully submitted,

LARRY DERRYBERRY
ATTORNEY GENERAL OF
OKLAHOMA

/s/ Steven E. Moore
STEVEN E. MOORE
ASSISTANT ATTORNEY
GENERAL

112 State Capitol Building
Oklahoma City, Oklahoma 73105
ATTORNEYS FOR
DEFENDANTS

• • •

[7]

PROPOSITION II

THERE IS A RATIONAL BASIS FOR THE CLASSIFICATION IN THE CHALLENGED STATE LAW, HENCE ITS VALIDITY MUST BE UPHELD.

Although not conceded by the defendants, should the Court conclude that it should determine the reasonableness of the classification in the challenged state law, then the defendants submit that there are reasonable, rational bases for the classification made by the Oklahoma Legislature:

(1) That there is a difference in the ages of maturity between males and females, with males maturing at an older age.

(2) That the possibility of males 18-21 years old consuming 3.2% beer to excess, becoming intoxicated, and causing injury to the general public, is greater than females 18-21 years old.

It has been long settled that the burden is on the plaintiff to prove *no* rational, reasonable basis for the challenged legis- [8] lation. If there is *any* reasonable, rational basis for the Legislative classification, then it must be upheld by the courts. *Miskunas* v. *Union Carbide*, 399 F.2d 847 (7th Cir. 1968); *Eslinger* v. *Thomas*, 340 F.Supp. 886 (S. Carolina, 1972) (denial of employment based on sex upheld), and *Williams* v. *McNair*, 316 F.Supp. 134 (S. Carolina, 1970).

The defendants submit that even if the Court con-

cludes that it should determine if there is a reasonable, rational basis for the legislative classification, that several such bases are present. The Court cannot, as a matter of law, decide the non-existence of any such reasonable basis for the classification, hence the complaint must be dismissed.

[signature block and certificate of service omitted]

ITEM 4 — ORDER OF DISMISSAL (REFERENCE)

[The single District Judge's Order of Dismissal, entered on February 13, 1973, and filed February 14, 1973, is unreported, but is reproduced at Appendix E to the Jurisdictional Statement herein.]

ITEM 5 — BRIEF OF APPELLEES, 10th CIR., NO. 73-1267 (EXTRACT)

IN THE UNITED STATES COURT OF APPEALS
FOR THE TENTH CIRCUIT

MARK WALKER,
and
CAROLYN WHITENER
d/b/a "The Honk and Holler,"
Appellants,
vs.
Hon. DAVID HALL,
Governor,
State of Oklahoma,
[et al.],
Appellees.

No. 73-1267

BRIEF OF APPELLEES

[15] The appellees urge that Oklahoma's regulation is not irrational, and that the Legislature could have reasonably concluded that the prohibition of sale of 3.2 beer to males aged eighteen to twenty-one years old would be reasonably related to the ultimate safety and welfare of all of its citizens.

[20] It is obvious that the lower court felt that the complainants below has not sustained the burden in their allegations of showing that the challenged classification was without justification, or in the alternative, that the Oklahoma classification complained of, was not without [21] a rational basis.

[23] It is obvious that the lower court, by its action in

dismissing the claim of the appellants, was able to perceive some reasonable, rational justification for the legislative classification challenged. ° ° ° The appellees urge [24] that the Oklahoma Legislature could have reasonably concluded that the prohibition of the sale of 3.2 beer to males ages eighteen to twenty-one was related to the health, safety, and welfare of all the citizens of Oklahoma.

ITEM 6 — COURT OF APPEALS, REVERSAL (REFERENCE)

[The decision of the United States Court of Appeals for the Tenth Circuit herein, *Walker, et al.* v. *Hall, et al.*, No. 73-1267, October 23, 1973, vacating the single District Judge's dismissal and remanding for a three-judge panel, is unreported, but is reproduced at Appendix F to the Jurisdictional Statement herein.]

ITEM 7 — ORDER OF DECEMBER 13, 1973 (ENTIRE)

IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF OKLAHOMA

MARK WALKER,
and
CAROLYN WHITENER
d/b/a "The Honk and Holler,"
Plaintiffs,
vs.
Hon. DAVID HALL,
Governor,
State of Oklahoma,
[et al.],
Defendants.

No. CIV-72-867

FILED

DEC 13 1973

Vera Eddleman

ORDER

This is an action challenging the constitutionality of the Oklahoma Statutes relating to the sale of 3.2 beer for consumption off the premises. The provisions of 37 Oklahoma Statutes 1973 Supp. §245 which classifies a minor for the purposes of such sales as being a female under the age of 18 and a male under the age of 21 is alleged to violate the equal rights protection clause of the Fourteenth Amendment to the United States Constitution by discriminating against males of the ages 18 to 21 by reason of sex. The action has been brought against multiple state officials seeking to enjoin the enforcement of the law prohibiting the sale of 3.2 beer to minors as same pertains to males from 18 to 21 years of age.

A Three-Judge Panel has been convened in this case pursuant to 28 U.S.C. §§2281 et seq.

Defendants have filed a Motion to Dismiss for Failure to State a Claim. The Motion is supported by a brief and Plaintiffs have filed a Response opposing same.

[2]

In support of their Motion, Defendants urge that the law being challenged relates to the regulation of intoxicating liquors and is permissible under the Twenty-first Amendment to the United States Constitution.

In *California* v. *LaRue*, 409 U.S. 109, 34 L.Ed. 2d 342, 93 S.Ct. 390 (1972) it is stated at L.Ed. 2d p. 350:

> "These decisions did not go so far as to hold or say that the Twenty-first Amendment supersedes all other provisions of the United States Constitution in the area of liquor regulations."

This would indicate that the Twenty-first Amendment may not bar granting the relief requested in the Complaint.

A motion to dismiss should not be granted unless it appears beyond doubt that the Plaintiff can prove no set of facts in support of his claim which would entitle him to relief. *Conley* v. *Gibson*, 355 U.S. 41, 78 S.Ct. 99, 2 L.Ed. 2d 80 (1957).

Defendants' Motion to Dismiss is overruled. Defendants will file their Answer on or before December 14, 1973.

It is so ordered this 13th day of December, 1973.

/s/ William J. Holloway, Jr.
UNITED STATES CIRCUIT JUDGE

/s/ Fred Daugherty
UNITED STATES DISTRICT JUDGE

/s/ Luther B. Eubanks
UNITED STATES DISTRICT JUDGE

ITEM 8 — ANSWER
(ENTIRE)

IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF OKLAHOMA

MARK WALKER,
and
CAROLYN WHITENER
d/b/a "The Honk and Holler,"
Plaintiffs,
vs.
Hon. DAVID HALL,
Governor,
State of Oklahoma,
[et al.],
Defendants.

No. CIV-72-867

FILED

DEC 14 1973

REX B. HAWKS
CLERK, U. S. DISTRICT COURT
By ..... Deputy

ANSWER

Come now the defendants, David Hall, Governor, State of Oklahoma; Larry Derryberry, Attorney General; Clarence L. DeWees, Chairman, Oklahoma Tax Commission; Lawton L. Leininger, Vice-Chairman, Oklahoma Tax Commission; M. C. Connors, Secretary, Oklahoma Tax Commission; Robert L. Hert, Presiding District Judge, Ninth Judicial District Court; Charles L. Headrick, District Attorney, Ninth Judicial District; Rose Jarvis, District Court Clerk, Payne County; Frank Phillips, Sheriff of Payne County; and Howard W. Hoyt, Chief of Police of the City of Stillwater; and for their answer to the complaint of the plaintiffs do hereby allege and state:

[2]

FIRST RESPONSE

The defendants admit the allegations of the first paragraph of the complaint.

SECOND RESPONSE

The defendants do not have any knowledge of the facts alleged in the second paragraph of the complaint and therefore cannot admit or deny same.

THIRD RESPONSE

The defendants do not have any knowledge of the facts alleged in the third paragraph of the complaint and therefore cannot admit or deny same.

FOURTH RESPONSE

The defendants deny the allegations of the fourth paragraph of the complaint.

FIFTH RESPONSE

The defendants admit the allegations of the fifth paragraph of the complaint.

SIXTH RESPONSE

The defendants admit the allegations of the sixth paragraph of Plaintiffs' complaint.

SEVENTH RESPONSE

The defendants admit that M. C. Connors and Lawton L. Leininger are members of the Oklahoma Tax Commission, holding the positions of Chairman and Vice-Chairman, respectively, and deny that Clarence L. DeWees is presently a member of said Commission.

EIGHTH RESPONSE

The defendants admit the allegations of the eighth paragraph of the complaint.

NINTH RESPONSE

The defendants admit the allegations of the ninth paragraph of the complaint.

TENTH RESPONSE

The defendants admit the allegations of the tenth paragraph of the complaint.

[3]

ELEVENTH RESPONSE

The defendants admit the allegations of the eleventh paragraph of the complaint.

TWELFTH RESPONSE

The defendants admit the allegations of the twelfth paragraph of the complaint.

THIRTEENTH RESPONSE

The defendants deny that any monetary amount in controversy is in excess of $10,000.00, but admit that the situs of the allegations of the complaint are within the Western District of Oklahoma.

FOURTEENTH RESPONSE

The defendants admit the allegations of the fourteenth paragraph of the complaint.

FIFTEENTH RESPONSE

The defendants admit the allegations of the fifteenth paragraph of the complaint.

SIXTEENTH RESPONSE

The defendants admit the allegations of the sixteenth paragraph of the complaint.

SEVENTEENTH RESPONSE

The defendants admit the allegations of the seventeenth paragraph of the complaint.

EIGHTEENTH RESPONSE

The defendants admit the allegations of the eighteenth paragraph of the complaint.

NINETEENTH RESPONSE

The defendants admit the allegations of the nineteenth paragraph of the complaint.

TWENTIETH RESPONSE

The defendants admit only that other sections in Title 37, Ch. 2 of the Oklahoma Statutes provide administrative and criminal sanctions for violations of the statutes therein and deny other allegations in the twentieth paragraph of the complaint.

TWENTY-FIRST RESPONSE

The defendants deny the allegations of the twenty-first paragraph of the complaint.

[4] TWENTY-SECOND RESPONSE

The defendants deny the allegations of the twenty-second paragraph of the complaint.

TWENTY-THIRD RESPONSE

The defendants deny the allegations of the twenty-third paragraph of the complaint.

TWENTY-FOURTH RESPONSE

The defendants admit the allegations of the twenty-fourth paragraph of the complaint.

TWENTY-FIFTH RESPONSE

The defendants admit the allegations of the twenty-fifth paragraph of the complaint, but deny that the statutory scheme involved is discriminatory, and that Clarence DeWees is a member of the Oklahoma Tax Commission.

TWENTY-SIXTH RESPONSE

The defendants deny the allegations in the twenty-sixth paragraph of the complaint.

TWENTY-SEVENTH RESPONSE

The defendants deny the allegations in the twenty-seventh paragraph of the complaint.

TWENTY-EIGHTH RESPONSE

The defendants deny the allegations of the twenty-eighth paragraph of the complaint. The defendants

specifically deny that plaintiffs are entitled to any costs of this action, including a reasonable attorney's fee.

FIRST DEFENSE

The State laws complained of in this case are not unconstitutional.

SECOND DEFENSE

The State laws now challenged regulate the sale and possession of intoxicants within the territorial limits of the State of Oklahoma. As such, the State's regulation comes within the scope of authorized State activity pursuant to the Twenty-first Amendment to the Constitution of the United States of America. Under that Amendment the states have an extraordinary power over the regulation [5] of intoxicants due to their natural tendency to get out of bounds, and to cause harm, both directly and indirectly to the general citizenry of the State. Oklahoma's law herein adopted pursuant to the Twenty-first Amendment to the United States Constitution, is presumed valid.

THIRD DEFENSE

There is no constitutional right to consume intoxicating beverages, and the sale of same is validly subject to strict regulation by the Oklahoma Legislature. No significant constitutional freedoms are jeopardized by the Oklahoma laws complained of.

FOURTH DEFENSE

When a State regulates intoxicants pursuant to power granted to it by the Twenty-first Amendment, such regulations are subject only to minimal requirements of due process or equal protection.

FIFTH DEFENSE

Due to the inherent dangers posed to the general health, safety and welfare of the citizenry of Oklahoma,

involved in the sale and use of intoxicants, the strict regulation of intoxicants, in the interest of protecting the safety of the citizens, is a compelling state interest.

SIXTH DEFENSE

The Oklahoma Legislature could have reasonably concluded that males aged 18 through 21 years consume 3.2% beer in a greater quantity than females in the same age group with the result that that class of males has a greater potential for causing harm while intoxicated to the general citizenry of the State.

WHEREFORE, the defendants urge that the complaint of the plaintiffs be denied, and that the constitutionality of the State laws complained of herein be upheld, and that the defendants be [6] allowed to continue to enforce said duly adopted laws of the Oklahoma Legislature.

Respectfully submitted,

LARRY DERRYBERRY
ATTORNEY GENERAL OF OKLAHOMA

STEVEN E. MOORE
ASSISTANT ATTORNEY GENERAL

ATTORNEYS FOR DEFENDANTS

[certificate of service omitted]

ITEM 9 — PRE-TRIAL ORDER (ENTIRE)

IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF OKLAHOMA

MARK WALKER,
and
CAROLYN WHITENER
d/b/a "The Honk and Holler,"
Plaintiffs,
vs.
Hon. DAVID HALL,
Governor,
State of Oklahoma,
[et al.],
Defendants.

No. CIV-72-867

FILED

FEB 5 1974

REX B. HAWKS
CLERK, U. S. DISTRICT COURT
By [signature]
Deputy

FIRST PRE-TRIAL ORDER

Pursuant to a pre-trial conference held herein on December 17, 1973, under Federal Rule of Civil Procedure No. 16, the following matters were resolved or decided herein:

1. *Burden of Proof.* The parties did not agree as to whether the burden of proving unconstitutionality of the assailed statute lies with the plaintiffs, or whether the burden lies with the defendants to establish constitutionality. The plaintiffs and defendants have submitted their briefs on this issue for the Court's consideration.

2. *Test of Constitutionality.* The parties have both taken the position that the issue that the test of constitutionality to be applied in this case is so intertwined

with questions of law on the merits, that it is incapable of being stipulated to.

The plaintiffs contend that the State's assailed classification can be upheld only if it is necessary to the accomplishment of a compelling state objective, and that no less onerous alternatives exist to solve the problem. The defendants contend that the State's assailed classification must be upheld if it is found to be reasonably and rationally directed toward the regulation of a matter which is a compelling state interest.

3. *Parties.* Counsel for the plaintiffs advised that the plaintiff Mark Walker has passed his 21st birthday, and that [2] the plaintiffs, while not conceding mootness or loss of standing, wish to add as an additional party plaintiff one Curtis Craig, age 18.

Counsel for the defendants advised that Mr. Clarence L. DeWees has been replaced on the Oklahoma Tax Commission by a Mr. J. L. Merrill; that the positions on the Oklahoma Tax Commission have rotated; and that these changes should be duly reflected.

There being no objections, the parties will by proper motion add, substitute, and/or amend their parties.

4. *Stipulations of Fact.* Counsel for the defendants stated the defendants would stipulate to the allegations of personal data regarding the plaintiffs (and the newly-added plaintiff). The plaintiffs will therefore not be required to appear at trial to establish the historical and personal facts alleged in paragraphs 2, 3 and 23 of the Complaint (or of similar allegations concerning the newly-added plaintiff).

Regarding evidence relating to the permissibility vel non of the sexual differentiation herein, the plaintiffs intimated they would have nothing to adduce should the

Court determine that the burden of proving constitutionality is upon the defendants; but indicated that they might wish to adduce appropriate expert physiological and/or psychological testimony if the Court were to rule that the burden of proving unconstitutionality lies with the plaintiffs.

Counsel for the defendants stated that the rationale for the sexual differentiation at bar appears to be that youthful males present a graver driving-while-intoxicated problem than do youthful females, and that counsel intends to offer certain traffic statistics to establish this asserted behavioural difference.

Regarding these statistics, and pending submission of copies thereof to plaintiffs' counsel, counsel for the plaintiffs will make appropriate stipulations in effect waiving proper authentication and the hearsay objections to the government [3] publications offered by defendants, but not waiving other objection as to their relevancy.

The parties agree to exchange a list of the names and addresses of the witnesses to be called by each prior to the tenth day before trial. Summaries of the witnesses' testimony shall also be exchanged on or before the same date.

At the present time, therefore, the question of evidence and testimony on the sexual differentiation at bar is still unresolved; and the parties will promptly adivse the Court as to progress in this regard.

5. *Attorney's Fees and Costs.* Counsel for the plaintiffs has abandoned his prayer for attorney's fees, but not for costs.

The foregoing will constitute the first pre-trial order of the Court herein.

/s/ William J. Holloway, Jr.
UNITED STATES CIRCUIT JUDGE

/s/ Fred Daugherty
UNITED STATES DISTRICT JUDGE

/s/ Luther B. Eubanks
UNITED STATES DISTRICT JUDGE

APPROVED AS TO FORM:

/s/ Fred Gilbert
FRED P. GILBERT
Attorney for Plaintiffs

LARRY DERRYBERRY
ATTORNEY GENERAL OF OKLAHOMA

By /s/ Steven Moore
STEVEN E. MOORE
ASSISTANT ATTORNEY GENERAL
Attorneys for Defendants

ITEM 10 — MOTION TO ADD ADDITIONAL PARTY PLAINTIFF (ENTIRE)

IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF OKLAHOMA

MARK WALKER,
and
CAROLYN WHITENER
d/b/a "The Honk and Holler,"
Plaintiffs,
vs.
Hon. DAVID HALL,
Governor,
State of Oklahoma,
[et al.],
Defendants.

No. CIV-72-867

FILED
MAY 7 1974
REX B. HAWKS
CLERK, U. S. DISTRICT COURT
DEPUTY

MOTION TO ADD ADDITIONAL PARTY PLAINTIFF

Come now Plaintiffs, and pursuant to the Pre-Trial conference and Order herein, respectfully move to add as an additional Party Plaintiff CURTIS LEE CRAIG, a member of the male sex whose date of birth is September 25, 1955 (and who is therefor presently 18 years of age).

Plaintiffs would further allege that the said Curtis Lee Craig is a citizen of the United States and of the State of Oklahoma, and a resident of Cleveland County, State of Oklahoma, within the Western District of Oklahoma, and a full-time student at the Oklahoma State University, at Stillwater, Payne County, Oklahoma, also within the Western District of Oklahoma, where the said Curtis Craig, who is desirous of purchasing 3.2% beer for

off-premises consumption on a parity with like-aged females, has on numerous occasions attempted to purchase such beer from inter alia the Plaintiff Carolyn Whitener, only to be thwarted by the Plaintiff Whitener's unwilling but statutorily coerced compliance with the sexually discriminatory scheme of the assailed 37 O.S. 241-245; and wherefor Curtis Craig adopts and incorporates for himself all corresponding allegations of the Plaintiff Mark Walker in the Complaint herein.

[2]

Plaintiffs would further allege that the prompting for the instant Motion is that the Plaintiff Mark Walker has since the commencement of this litigation passed his 21st birthday; but the Plaintiffs do not by their instant Motion concede that the instant case is moot as to the Plaintiff Walker, see *Roe* v. *Wade* (1973) 410 U.S. 113, Part IV (A), at 124-125, 93 S.Ct. at 712-713, 35 L.Ed.2d at 161, or that the Plaintiff Whitener's standing (as a prospective vendor) is in any way diminished to assert the rights of 18-21 year old males (as prospective vendees), see *Eisenstadt* v. *Baird* (1972) 405 U.S. 438, Part I, at 443-446, and *Doe* v. *Bolton* (1973) 410 U.S. 179, Part III, at 188-189, 93 S.Ct. at 745-746, 35 L.Ed.2d at 210-211.

Wherefore, premises considered, Plaintiffs pray that Curtis Craig be added to the Cause herein as an additional Party Plaintiff.

Respectfully submitted,

/S/ Fred Gilbert
FRED P. GILBERT
1401 National Bank of Tulsa Bldg.
Tulsa, Oklahoma 74103
(918) 582-8201

Attorney for Plaintiffs.

[certificate of service omitted]

ITEM 11 — ORDER ALLOWING ADDING OF ADDITIONAL PARTY PLAINTIFF

IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF OKLAHOMA

MARK WALKER,
and
CAROLYN WHITENER
d/b/a "The Honk and Holler,"
Plaintiffs,
vs.
Hon. DAVID HALL,
Governor,
State of Oklahoma,
[et al.],
Defendants.

No. CIV-72-867

FILED

MAY 8 1974

REX B. HANKS
CLERK, U. S. DISTRICT COURT
By [illegible]
Deputy

ORDER ALLOWING ADDING OF ADDITIONAL PARTY PLAINTIFF

NOW, on this 8 day of May, 1974, for good cause shown, and as per the pre-trial conference and Order herein (paragraph 3), Curtis Lee Craig shall be allowed to be added to the Cause herein as an additional party Plaintiff.

IT IS SO ORDERED.

/s/ William J. Holloway, Jr.
UNITED STATES CIRCUIT JUDGE

/s/ Fred Daugherty
UNITED STATES DISTRICT JUDGE

/s/ Luther B. Eubanks
UNITED STATES DISTRICT JUDGE

ITEM 12 — LETTER-ORDER OF MAY 13, 1974

UNITED STATES DISTRICT COURT

NORTHERN, EASTERN AND WESTERN DISTRICTS OF OKLAHOMA

CHAMBERS OF
FRED DAUGHERTY
JUDGE

OKLAHOMA CITY 73101

May 13, 1974

Mr. Fred Gilbert
Attorney at Law
National Bank of Tulsa Building
Tulsa, Oklahoma

Mr. Steven E. Moore
Assistant Attorney General
State Capitol Building
Oklahoma City, Oklahoma 73102

Re: No. 72-867, W. D. Okla.
Walker, et al. v. Honorable David Hall, et al.

Gentlemen:

The Court has decided from a consideration of pertinent cases that the burden of proof in the above case rests on the defendants. The parties will proceed accordingly with reference to the May 20 trial.

Very truly yours,

/s/ Fred Daugherty
Fred Daugherty
U. S. District Judge

cc: Honorable William J. Holloway, Jr.
Federal Building
Oklahoma City, Oklahoma

Honorable Luther Eubanks
Federal Building
Oklahoma City, Oklahoma

Clerk, W. D. Oklahoma

ITEM 13 — TRANSCRIPT OF TRIAL (ENTIRE)

IN THE UNITED STATES DISTRICT COURT
FOR THE WESTERN DISTRICT OF OKLAHOMA

No. 72-867 Civil

MARK WALKER, ET AL.,
Plaintiffs,

vs.

HONORABLE DAVID HALL, ET AL.,
Defendants.

TRANSCRIPT OF PROCEEDINGS

APPEARANCES:

FRED P. GILBERT, Attorney at Law, 1401 National Bank of Tulsa Building, Tulsa, Oklahoma, 74103, appearing on behalf of the Plaintiffs.

STEVEN E. MOORE and JAMES R. BARNETT, Assistant Attorneys General, 112 State Capitol, Oklahoma City, Oklahoma, appearing on behalf of the Defendants.

The following proceedings came on for hearing on the 20th day of May, 1974, before the Honorable William J. Holloway, Jr., U. S. Circuit Judge, Fred Daugherty, U. S. District Judge, and Luther B. Eubanks, U. S. District Judge, at Oklahoma City, Oklahoma, as follows:

[3] JUDGE HOLLOWAY: Good morning. Are there Motions for Admission to the Bar?

MR. GILBERT: Your Honor, I don't believe I have ever been formally admitted over here.

JUDGE HOLLOWAY: Well, we will have to ask someone to move you. One of your adversaries here.

MR. MOORE: I will make such a motion.

May it please the Court, my name is Steven Moore. I am a member of the Western District Bar.

JUDGE HOLLOWAY: Very well. Have you applied with the Clerk yet for the papers and submitted them?

MR. GILBERT: No, Your Honor, I have not.

JUDGE HOLLOWAY: Well, we should make that motion.

MR. MOORE: We make that motion, Your Honor, for the purposes of this trial, should we not, under that rule, for your Court?

JUDGE DAUGHERTY: Are you admitted in any Federal Court?

MR. GILBERT: Yes, Your Honor, the Northern District.

JUDGE DAUGHERTY: Under our rules, he can be permanently admitted here is he is a member of another Federal Court. Do you wish permanent admission?

MR. GILBERT: Yes, sir.

[4] JUDGE DAUGHERTY: He is eligible if he is admitted in another Bar.

JUDGE HOLLOWAY: Very well. Motion should be granted. We are happy to have you.

Would you take your oath with the Clerk.

Do you have an oath you give here?

THE CLERK: Yes, I do.

JUDGE HOLLOWAY: Members of the Bar will please rise.

(Thereupon, the oath was duly administered.)

JUDGE HOLLOWAY: Happy to have you.

We have for trial this morning, the case of Mark Walker and others versus the Honorable David Hall and others.

Are the parties ready in this case?

MR. GILBERT: The Plaintiffs are ready, Your Honor.

MR. MOORE: The Defendants are ready, Your Honor.

JUDGE HOLLOWAY: Very well. We have previously advised you that the Court is of the opinion that the burden rests on the Defendants in this matter, which I think the parties are aware of, and for that reason we will proceed in the manner of letting the Defendants put their matters first and carry the burden; evidence and argument- [5] wise both.

At this time, if you wish, we will hear your brief opening statements.

I will advise you, we have all studied your briefs and are aware of your positions.

We will have opening statements at this time.

MR. MOORE: Thank you very much, Your Honor.

May it please the Court. The evidence which the State will present this morning is entirely in the form of statistics from established publications by local reporting systems.

We will have statistics from the Oklahoma State Bureau of Investigation; the Oklahoma Department of Public Safety, as well as other private studies and studies by U. S. Federal Governmental agencies. All statistics which we believe will show that males within the age group of 18 through 21 drive more, drink more and commit more alcohol related offenses.

This will consist of the proof which we offer to you this morning.

That is all I have at this time.

JUDGE HOLLOWAY: Very well. For the Plaintiffs?

MR. GILBERT: Your Honor, very briefly.

We feel that the Defendants will not sustain a burden of defending the discrimination at Bar.

[6] We contemplate that the Court may reject these statistics which they offer, or in any event, will find them unpersuasive.

If the Court does find they have made an arguable defense, we do intend to call two witnesses. Dr. Joseph Ruffin, who is seated at counsel table, and Dr. Ben Jones, of the Oklahoma University Medical School, who will offer expert testimony that there is no rational basis known to medical or psychiatric science for the discrimination in question.

I would advise that the parties, the Plaintiffs themselves, will not personally be present since all facts of relevancy regarding their standing have already been stipulated to.

JUDGE HOLLOWAY: Very well.

The Defendants may proceed.

MR. MOORE: Thank you, Your Honor.

I would like to call Mr. Don Wallock.

DONALD M. WALLOCK, JR.,

having first been duly sworn upon his oath, took the witness stand and testified as follows, to-wit:

DIRECT EXAMINATION

BY MR. MOORE:

Q What is your full name, please?

A Donald M. Wallock, Jr.

[7] Q What is your occupation, sir?

A I am an agent supervisor with the Oklahoma

State Bureau of Investigation. I am a supervisor of the Uniform Crime Reporting Division.

Q And how long have you held that position with the State Bureau?

A Four years.

Q And could you describe precisely, as best you are able, the duties of your specific function within the agency?

A We collect crime statistics from police departments, sheriffs' offices around the State of Oklahoma. These are arrest statistics.

Q Are you required by State law to do that?

A Yes, sir, by the State Statute.

Q Could you describe more particularly, if you are able, the data which you keep?

A I beg your pardon?

Q Could you describe the data, generally, which you keep as a part of your business.

A Okay. We keep the number of crimes, the number of persons arrested for particular crimes, by age, sex and race.

Q For what types of crimes do you keep the statistics?

[8] A All parts of crimes, Part 1 and Part 2 crimes. Part 1 are felony crimes and Part 2 are misdemeanor crimes.

Q Now, I will show you what has been marked as Defendants' Exhibit No. 1 and ask you if you can identify that, please.

A Yes, sir. These are statistics that I gathered relating to alcohol related offenses for males and females, 18 through 21 years of age.

Q Does your signature appear at the bottom of this report?

A It does.

Q Was this report prepared at my request and from your records at the Bureau?

A It was.

Q Where are the original records which gave the basis for this report?

A In my custody at the Bureau.

Q Is this a true and accurate copy of the original records which are now located at the Bureau?

A It is.

Q This report was prepared under your direct supervision?

A That is correct.

Q Now, I notice from looking at the face of the

[9] report, that it shows that it is for the months of September, October, November and December of 1973. Why is that?

A At this time, or starting with the month of September, 1973, the Oklahoma Bureau of Investigation assumed the responsibilities for collecting these statistics. Prior to this time, these statistics were collected by the Federal Bureau of Investigation.

Q Do you report these statistics to the Federal Government?

A I do.

Q Do they require such statistics be reported?

A They do.

Q Now, I notice also from the face of the report that this shows persons who are arrested only. Why does this report not show the disposition of those arrests, if you're able to tell the Court?

A This is a new program. The difficulty of obtaining disposition on these cases is tremendous. We will get the disposition on the cases at the end of the year. This is a once-a-year statistic that we do collect. At the

end of 1974 we will collect the disposition of the number of people arrested.

Q But, that has not been done at this time?

A Not at this time.

[10] Q I would ask that Defendants' Exhibit No. 1 be admitted into evidence.

JUDGE HOLLOWAY: The Defendants examined it?

Or the Plaintiffs?

MR. GILBERT: Your Honor, we have waived hearsay objection. I do have an objection regarding relevance. I can either present that at this time or at some future time, according to the Court's convenience.

JUDGE HOLLOWAY: I think you better make your objection now.

MR. GILBERT: Yes, very well. Your Honor, I object to these statistics as being irrelevant for a number of reasons, one of which they are merely arrest statistics and not conviction statistics and the arrests are virtually indistinguishable from the mere accusation,[1] the mere facts that more males, 18 through 21, are accused of drunkenness or alcohol-related offenses, is completely immaterial. What could be material is whether or not they have been convicted more often.

Furthermore, these offenses are not categorized as to whether, as to what kind of liquor they are derived from. Whether this is a hard liquor, in excess of 3.2 percent alcohol, or what is called nonintoxicating liquor, of 3.2 percent or less.

Now, what this case involves is the discrimination, [11] in nonintoxicating liquor. There is no discrimination, as far as I know, in the law books of Oklahoma regarding hard liquor. That is nondiscriminatory. So,

---

[1]"Acquisition" appears in the original.

these statistics could very well be, for all we know, reflecting to the type of liquor which is not involved in this lawsuit.

Furthermore, there is no, unless there is going to be connection up with other evidence, as to show what the percentage of males to females actually driving might be, we don't know whether these statistics are disproportionate or not.

It may be, I just look at the statistics, they seem to show generally that males seem to be accused of alcohol-related offenses about ten times more often than females. Unless there is some showing that there is actually an equal amount of miles driven, we can't tell just from the face of these statistics, whether there is a disproportionality in the sense of this discrimination.

Furthermore, there is another difficulty, Your Honor. For instance, under the driving under the influence, just taking[2] that as an example, we see total persons arrested. Well, 152 plus 107 plus 168. I have that tabulated here somewhere. I believe it is—yes, okay. Whatever that total comes out to be, 427. We can't tell from these statistics whether, for instance, one person has been arrested 427 times or whether it is 427 different males who have been [12] arrested one time apiece.

If we can't tell that, we just can't really tell what that figure really means. Even assuming it did result in an actual conviction for 3.2 percent alcohol in particular.

Furthermore, I would suggest that there is no showing whether or not there may be a discriminatory attitude or practice of law enforcement personnel to selectively prosecute against males in that teen-age, in that—yes, in that teen-age group as opposed to females. There may be, I submit, a folk myth around that males in that

[2]"Saying" appears in the original.

age category are naturally rowdy and therefore there may be selective discrimination.

My final objection would be, and perhaps I should reserve this for final argument. I submit that at this time and day, constitutional development in the United States, that it doesn't make any difference if there is some kind of a statistical behavior difference between males and females. The time has come when the equal protection law means that it has been interpreted to mean what it says, no matter how you differentiate it or split the two groups of people. There is always going to be some statistical fluctuation between the two groups.

If you could split between black and white there would be some statistical difference or between [13] Protestants or Catholics or Republicans or Democrats.

JUDGE HOLLOWAY: I believe you have stated your position and we can let you argue further. If those are the grounds of your objections as stated, the Court can rule on those.

Is there any other ground you have not covered yet?

MR. GILBERT: Yes, sir, one.

We don't know that the total population is in this whole group, in this 5400 or this 427 arrests, according to my statistics, since it is statistics, discloses that that figure is just about one percent of the total male population of that age category and is just de minimis, as a matter of law, as a basis of condemning the other 99 percent.

MR. MOORE: Your Honor, may I make an additional statement?

I didn't want to interrupt the Court.

JUDGE HOLLOWAY: I don't believe it will prove necessary. Let us clear some matters up with counsel, if you please, Mr. Moore, and then we will wait and see if you need to respond.

Mr. Gilbert.

MR. GILBERT: Yes, sir.

JUDGE HOLLOWAY: You indicated you were not [14] objecting on the grounds of hearsay and we somewhat interpret that to me you don't object to this form of summary testimony by virtue of the fact that the original records are not here for your examination.

MR. GILBERT: That is correct, Your Honor.

JUDGE HOLLOWAY: The grounds are as stated. Irrelevance, or that it is incompetent under the constitutional standards.

Well, I am not trying to phrase it for you. The grounds that you are indicating, though, you're not objecting to the form of the evidence?

MR. GILBERT: No, I am waiving the hearsay.

JUDGE HOLLOWAY: All right, and summary form that counsel is introducing it by.

What I mean is, he has an accounting summary virtually here.

MR. GILBERT: No, I don't object on that aspect. I am just, my objection is that they're irrelevant rather than incompetent.

JUDGE HOLLOWAY: Very well, the objection will be overruled. The Court is all of the opinion that the evidence should be admitted. It is competent, and considered by the Court. The matters that you have argued going to its weight will be considered.

MR. GILBERT: Very well, Your Honor.

[15] MR. MOORE: Thank you, Your Honor.

I might just point out in passing that the Statute, I believe, which is in point on admissibility of all this evidence is Title 28, United States Code, Section 1732, which sets forth the so-called Shop Book Rule which makes admissible into evidence, official records of governmental agencies, State, Federal and County. If they

are kept in the ordinary course of their functions and business.

I would just state that very briefly.

JUDGE HOLLOWAY: Very well, thank you.

MR. MOORE: Also, the Court Rule, Federal Court Rule, Civil Procedure Rule 44 (A-1).

Q Now, Mr. Wallock, from the records of the department and the report before you, which you have in front of you, very briefly, you have that categorized in terms of three offenses as they relate to alcohol. Is that correct?

A That is correct.

JUDGE HOLLOWAY: Counsel, pardon me, just a moment.

Do you have any copies of this exhibit?

MR. MOORE: Oh, yes, I am very sorry.

JUDGE HOLLOWAY: If you would give them to the Clerk and we could be referring to them.

[16] Do you have other exhibits, Mr. Moore, you will be following with?

MR. MOORE: Yes, sir, I do.

JUDGE HOLLOWAY: Very well.

BY MR. MOORE:

Q The first one of those offenses, I believe is driving under the influence.

Now, that is a violation of Oklahoma Statutes. Is that correct?

A That is correct.

Q And you have these offenses categorized by ages, 18 through 21, respectively. Is that correct?

A That is correct.

Q For the years, for the age 18 years, what were the breakdown of the male and female arrests for the crime of driving under the influence?

A 152 males were arrested, 14 females.

Q And for the age 19 years?
A 107 males, 2 females.
Q And for the age 20 years?
A 168 males, 8 females.
Q And for the age 21?
A 166 males, 13 females.
Q All right, now, the next offense which is described in the report is so-called liquors laws. What does [17] that involve?
A That involves—
MR. GILBERT: Excuse me. May I say another formal objection for the record, Your Honor.
According to the Pre-Trial Order, it was my understanding that the defense of the statute would be based on the statistics regarding to driving while intoxicated.
I think the other two categories of statistics would be irrelevant for that purpose. He has the DWI statistics, I think that is sufficient.
JUDGE HOLLOWAY: Well, are you claiming surprise or any objection because of the pretrial order term?
MR. GILBERT: No, Your Honor.
JUDGE HOLLOWAY: You're just claiming they're irrelevant?
MR. GILBERT: Yes, Your Honor.
JUDGE HOLLOWAY: Well, that question we have considered and do overrule.
MR. GILBERT: All right.
BY MR. MOORE:
Q What are the offenses which come under the heading of liquor laws, please?
A Possession of alcohol by minors, open bottle.
Q Operating an open saloon?
[18] A Operating an open saloon. Working in a saloon.

Q So, this is just kind of a general catchall for all other liquor violations?
A That is correct.
Q Does this include State offenses as well as violations of municipal ordinances?
A Correct.
Q Does the former, driving under the influence—
A Yes, sir.
Q What are the breakdowns for 18 years of age, male and female, for the so-called liquor laws violations?
A 119 males, 21 females.
Q Now, moving on, I will try to expedite this, may it please the Court.
Let's go to the last category, drunkenness. What is the offense which is described there?
A That is being under the influence of intoxicating liquor.
Q The so-called public drunk?
A Public drunk, yes.
Q What is the breakdown, male and female, for the 18 years of age group?
A Male, 340; female, 39.
Q And for the drunkenness category, 19 years?
A 321 males, 33 females.
Q Twenty years?
A 305 males, 30 females.
Q Twenty-one years?
A 377 males, 34 females.
Q Now, just one additional question, Mr. Wallock. What is your population coverage on these statistics?
A 84 percent population coverage.
Q And how many enforcement entities do you have reporting to you on this data?
A 64 sheriffs' departments and 130 police depart-

ments in the State of Oklahoma.

Q So, by your calculation, 84 percent of the Oklahoma population is covered by this statistic which you have here?

A That is correct.

Q I have no further questions at this time.

JUDGE HOLLOWAY: May I ask you, what do you mean by the other 16 percent?

How are they not covered?

A Those are not reporting departments, Your Honor. Those are departments that did not report to us during this particular period.

JUDGE HOLLOWAY: You mean areas of the State, geographical areas?

A Yes, sir.

[20] JUDGE HOLLOWAY: I see.

Any cross examination?

MR. GILBERT: Yes, very briefly.

CROSS EXAMINATION

BY MR. GILBERT:

Q Mr. Wallock, I believe under the heading of Liquor Laws, you said that could include such offenses as illegally working in a beer joint?

A That is correct.

Q Are you not aware, sir, that a female may work in a place which sells 3.2 percent beer at age 18 and a male is prohibited therefrom until 21?

A I am aware of that, yes.

Q And in view of that statutory discrimination, that could affect the way these statistics look from a male and female who do the exact same physical acts?

A That is correct.

Q That is, a female of 19 could work in a bar and this would not reflect as a violation on these statistics,

but a male could be doing the same work in the same bar and that would reflect as a violation?

A That is correct.

Q Do you know to what extent that type of discrimination is affecting, or has affected,[3] these statistics?

A I have no way of knowing.

[21] Q I see. No further cross examination.

MR. GILBERT: I would raise what I have just raised as a further objection to Line 2, Liquor Laws.

JUDGE HOLLOWAY: Let me ask you, please.

Do you have the figures available with you about what part of these figures are the violations that counsel is inquiring about?

A There is no breakdown of that, Your Honor, of that particular violation. It is all lumped under Liquor Law Violations. The reports that I receive lump them all under one category.

JUDGE HOLLOWAY: Well, the renewed objection is overruled. The Court, realizing the weakening of the exhibit by the evidence developed, but it, we determine goes to the weight again.

MR. MOORE: Just one very quick additional questions now.

REDIRECT EXAMINATION

BY MR. MOORE:

Q These, all of the classifications are in very broad categories. Who establishes these broad categories? Did you establish them?

A I did not. The FBI established what they, what type of offenses they wanted them for.

Q But, driving under the influence and drunkenness [22] are very specific violations and specific statutes?

[3] "In effect" appears in the original.

A That is correct.

Q That is all I have for this witness.

JUDGE HOLLOWAY: Anything further from this witness?

MR. GILBERT: Nothing further, Your Honor.

JUDGE HOLLOWAY: May he be excused?

MR. MOORE: Yes, I would ask he be excused.

JUDGE HOLLOWAY: Any objections?

MR. GILBERT: No, Your Honor.

JUDGE HOLLOWAY: You may step down and you are excused from attendance on the court.

MR. MOORE: We will call Phil Ballard, please.

PHIL BALLARD,

having first been duly sworn upon his oath, took the witness stand and testified as follows, to-wit:

DIRECT EXAMINATION

BY MR. MOORE:

Q State your name, please.

A Phillip G. Ballard.

Q And what is your occupation?

A Lieutenant, Oklahoma City Police Department.

Q How long have you worked for the Oklahoma City Police Department?

A Ten years.

[23] Q What is your present position within the department?

A Planning and Research, which covers statistics of our department.

Q Could you be more specific, if you can. Your precise duties as head of the Planning and Statistics Division in the department.

A Well, we record all arrest data and make uniform crime reports to the State which is forwarded to the FBI now.

Q Reports are prepared for the purposes of forwarding to the FBI, Federal Bureau of Investigation?

A Yes, sir.

Q Is that done on a uniform basis?

A Yes, sir.

Q I have set in front of you what has been marked as Defendants' Exhibit No. 2 and ask you if you can identify them.

A Yes, sir.

That is a copy of our form that we sent in to the FBI covering the year 1973.

Q That is a copy of the report which you prepared as a part of the business of your department and function within the department; is that correct?

A Yes, sir.

[24] Q Is it a true and accurate copy of the original report which you prepared?

A Yes, sir, it is.

Q Was a report prepared directly under your supervision?

A Yes, sir, it was.

Q Where is the original copy of that report?

A I, the original copy was sent to Washington.

Q To the Federal Bureau of Investigation?

A Yes, sir.

Q And you retained a copy in your files, is that correct?

A Yes, sir.

Q Does a copy which you have retained in your files, coincide exactly with a copy which is marked Defendants' Exhibit No. 2?

A Yes, sir, it does.

Q So, let me ask you just one more time. Do you identify this report as a true and accurate copy of the original report which you mailed to the FBI?

A Yes, sir.

Q I will ask that Defendants' Exhibit No. 2 be admitted into evidence.

JUDGE HOLLOWAY: Has counsel examined this one?

MR. GILBERT: Yes, Your Honor. I would make the [25] same objections as to the exhibit.

JUDGE HOLLOWAY: Very well. On the same ruling as previously announced, the objection is overruled.
BY MR. MOORE:

Q Now, Lieutenant Ballard, there are numerous categories described upon this report. Before I get into that, what does, from where did the data in this report come?

A They're taken from the booking slips when the person actually booked into the City Jail.

Q Is this a compilation of all the data of arrests made by the Oklahoma City Police Department?

A Yes, sir.

Q And would that, so this would cover all the arrests which took place within the City of Oklahoma City. Is that correct?

A By Oklahoma City Police officers.

Q And for what time frame are we dealing?

A Calendar year, 1973.

Q So, Defendants' Exhibit No. 2 is a record of calendar year 1973, of arrests by the Oklahoma City Police Department?

A Yes, sir.

Q Now, do you know, on Item 21, what is the offense described by that classification?

[26] A Driving under the influence.

Q Is this, as you report the data, is this for a violation of the State laws or the City ordinances, or both?

A Both.

Q Okay. Now, what, generally, did you hear Mr. Wallock testify, would your testimony as to the offenses contained in the liquor laws, would that be the same as Mr. Wallock's?

A Yes, sir.

Q It is a catchall classification?

A Right.

Q And also, drunkenness, is that a violation of both the State laws and the municipal ordinances of Oklahoma City?

A Right.

Q And violations for both would be included in this report?

A Yes, sir.

Q Now, the number of arrests — incidentally, this does show only arrests. Why does it not show dispositions?

A Well, it is — we do make the dispositions, but they're not broken down into age categories. It would be almost impossible for the total work and we have never had the occasion to do it before. And therefore, we do not even [27] attempt to keep dispositions as to age groups.

Q Is this the only data which the FBI requires from you at this time?

A Yes.

Q Now, does your report break down the number of arrests by age and sex groups?

A Yes, sir, it does.

Q Specifically directing your attention to Item No. 21, the age group 18 years of age, what were the number of arrests by male and female offenders?

A Age group 18, there were 47 males and ten females.

Q And age group 19?
A 54 males and one female.
Q Age group 20?
A 72 males and five females.
Q And age group 21?
A 86 males and four females.
Q Now, dropping down to Item No. 23, which is the so-called public drunk violation, what are, what is the male and female breakdown for age group 18?
A 18, 120 males and 18 females.
Q And 19?
A 104 males, 22 females.
Q And age 20?
[28] A 96 males and 19 females.
Q And age 21?
A 146 males and 16 females.
Q That is all the questions I have at this time of this witness.

CROSS EXAMINATION

BY MR. GILBERT:

Q Officer, on my Xerox copy, up at the top where the two pages are joined together, I have a break that is a little hard to read. There is some italicized print in parenthesis that says—would you read that to me, please.

A Yes.

"Includes those released without having been formally charged."

Q Thank you. Now, Officer, I believe you stated under the heading of Liquor Laws, this is sort of a catchall category which includes everything relating to alcohol that is not either public drunk or DWI.

A Yes, sir.

Q Does that include an Oklahoma City ordinance as well as State statutes?

A Yes.

Q All right. Does Oklahoma City have a possession of beer by a minor ordinance?

[29] A Yes.

Q And what is classified as a minor for possession of beer under that ordinance, if you know, sir?

A I believe it is under 18 for females and 21 for males.

Q And you are aware that there is a State Statute that a female may work in a bar at 18, but a male is prohibited from such work until 21?

A Well, I am aware of the 18. I really can't say I am aware of the one for 21 for the male.

Q I see. Well, under the Oklahoma City Ordinance, the female at 19 could, say, possess beer and that possession would not show up as a violation of the liquor laws, would it?

A That is right.

Q But, if a male, 19, were to possess liquor it would show up as a violation. Is that correct?

A Yes, sir.

Q All right. Do you know, Officer, to what extent this discriminatory statute or ordinance is having an effect upon the seemingly disparate[4] statistics under Item 22, Liquor Laws?

A I would have no idea.

Q All right. Now, Officer, under Item 21, Driving Under the Influence, I believe you testified for male [30] arrests at 18 was 47; age 19, 54; and age 21, 72. Is that correct?

A Yes, sir.

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[4]"Disparaged" appears in the original.

Q All right, Officer, just looking at those statistics, it seems to me as though there is a significant jump at age 21 and beyond for male arrests. Is that correct?

A There is a jump.

Q All right. Do I understand from that, Officer, that as far as your statistics reflect, there is less then a problem of DWI for males 19, 19 and 20, than there is for males 21 and above?

A Well, sir, I wouldn't be able to answer that question without showing or knowing the basis of the population and percentage given.

Q Let's say just on the basis of these statistics.

A There is more arrests for age 21 than there was for 20.

Q Would that indicate that there is more of a problem for male DWI at age 21 than above?

A Sir, I wouldn't necessarily think so.

Q It is possible?

A It is possible.

Q All right. Now, I will ask the same question under Line 23, Drunkenness. I notice, I believe you testified [31] that for a, the offense of public drunk at age 18, you had 102 male arrests and at age 19, 104, and age 20, 96. Is that correct?

A Yes, sir.

Q On my copy of the statistics, I notice a significant jump at age 21 and beyond. Is that correct?

A Yes, sir.

Q Do I understand from these statistics, then, Officer, there is considerably less problem with public drunk among males 18 than there is with males 21 and beyond?

A Sir, all I can say is our statistics jumped from that age category. I couldn't say that there is less of a problem.

A I consider —

A I couldn't say there was less of a problem.

Q It is possible, though?

A It is possible.

Q All right. And I would ask your answer would be the same under Line 22, Liquor Laws? Well, that is a little bit different. Never mind, I will withdraw that question.

I understand that, for instance, let me ask one qualifying question.

Under Line 22, Liquor Laws, I do notice that [32] there seem to be more arrests for males 18 to 20 than for the immediate years beyond. Is it possible, Officer, that that offense of possession by beer, beer by a minor, could be influencing those statistics?

A Yes, sir, that and minor private clubs.

Q All right. No further cross examination, Your Honor.

REDIRECT EXAMINATION

BY MR. MOORE:

Q I would like to clarify one point just very briefly, if I may.

Lieutenant Ballard, is there any age distinction in the offenses of driving while intoxicated? There is no age requirement, you're guilty of the offense if you are five or sixty-five. Is that not correct?

A That is correct.

Q Would the same be true for public drunk?

A Yes.

Q That is all I have of this witness.

JUDGE HOLLOWAY: Anything further?

MR. GILBERT: No, Your Honor.

JUDGE HOLLOWAY: May he be excused?

MR. MOORE: I would request he be excused.

JUDGE HOLLOWAY: Is there any objections?

MR. GILBERT: No objections, Your Honor.

[33] JUDGE HOLLOWAY: You may be excused, Mr. Ballard.

MR. MOORE: Your Honor, that is all of the witnesses which I intend to put on.

There are other items of evidence which I would like to have introduced into evidence, however.

JUDGE HOLLOWAY: Very well.

MR. MOORE: I am kind of uncertain as to the procedure. They do have no supporting testimony, so I would assume that I would just offer the exhibit and make whatever statements I think is appropriate and naturally counsel can respond.

JUDGE HOLLOWAY: Have you furnished counsel with these exhibits?

MR. MOORE: Yes, I have.

MR. GILBERT: Yes, Your Honor.

JUDGE HOLLOWAY: Will there be objections to them?

MR. GILBERT: There will be no hearsay objections. My only other objections will be the same objections regarding relevancy and materiality that I have previously stated.

JUDGE HOLLOWAY: Why don't you make a statement identifying the exhibit by number and tell us in substance what it is and we will make the record here.

MR. MOORE: Thank you very much, Your Honor.

[34] What is marked as Defendants' Exhibit No. 3 which has previously been furnished a copy to counsel, at least a month ago, perhaps longer, is a study made by OMEC, Incorporated. OMEC, Incorporated, is a Norman corporation comprised of four doctors at OU. They have a contract with the Alcohol Safety Action Program, the local ASAP program operated here in

Oklahoma City, to conduct research and evaluate data.

JUDGE EUBANKS: Well, are these the M.D. type doctors?

MR. MOORE: No, sir, they are Ph.D.'s.

JUDGE EUBANKS: All right.

MR. MOORE: Whose statistical backgrounds, and the study by OMEC, Incorporated, is a part of roadside surveys which they conducted as a course of their regular business pursuant to the contract with ASAP.

There is a cover letter with the report which generally describes the procedure which was followed.

Dr. Krenek, the person who extracted this data from the files of OMEC, Incorporated, is out of town and could not be here today and I did not feel it desirable to subpeona him, especially in view of the fact that counsel has had the statistics for many months and has waived his hearsay objections.

I would like to move the admission of Defendants' [35] Exhibit No. 3 into evidence, at which time I would make additional comments.

JUDGE HOLLOWAY: Is there any objections to the Defendants' Exhibit No. 3?

MR. GILBERT: No hearsay objection, Your Honor, but the previous objections would apply to this exhibit also.

JUDGE HOLLOWAY: The Court's ruling is the same. The objection will be overruled.

MR. MOORE: I have furnished the Clerk with three copies. I will wait until they're distributed.

JUDGE HOLLOWAY: The objections as stated is overruled and the Defendants' Exhibit No. 3 is received in evidence and if I did not make the record clear, the Defendants' Exhibit No. 1 and 2 are also received in evidence. The objection is being overruled.

MR. MOORE: Thank you, Your Honor.

As I said, pursuant to their contract with ASAP, OMEC conducted a roadside survey during the years of 1972 and 1973. As you can see from the cover letter there —

JUDGE HOLLOWAY: Counsel, just a minute. I believe your remarks now are getting into argument. In other words, the exhibit is in evidence without objections and the Court will read it. If you want to allude to it [36] during your argument, why, that will be fine. We can proceed with the evidence at this time. Do you have any other exhibits?

MR. MOORE: Yes, sir. I would like to offer into evidence Defendants' Exhibit No. 4 and Defendants' Exhibit No. 5, both documents of which are summaries of the —

JUDGE HOLLOWAY: Well, we better take them one at a time, if you will, and describe it generally for us and then pause for objections.

MR. MOORE: Yes, Your Honor.

Defendants' Exhibit No. 4 is a report published by the Oklahoma Department of Public Safety. During the course of their business they publish these reports yearly. They are distributed to the public, to anyone who requests them and are published pursuant to State Statute as part of their statistical data which they provide for anyone needing the data and to the public at large.

The report is a nine, ten page report which covers all their various breakdowns regarding collection and by age groups and sex groups.

The exhibit and page number which I am particularly interested in is Page 7 of the report, which shows the male and female drivers killed, injured by age group and sex group. It does not show them by levels of intoxication.

[37] My sole purpose for offering this exhibit is to show

the, I think the exhibit is useful in that it shows the number of accidents to which people in this age group are involved, which admittedly, not being specifically on point, I think is relevant and should be considered by the Court along with the other exhibits in the case.

JUDGE HOLLOWAY: Now, you're offering, you mentioned special items in Page 7. You're offering the entire report or just the page?

MR. MOORE: I would offer the entire report.

JUDGE HOLLOWAY: Very well. Is there any objections?

MR. GILBERT: No hearsay objection, Your Honor. I do offer the previous objections. I would also add that statistics regarding injuries are completely irrelevant as to question of culpability.

JUDGE HOLLOWAY: The objection is overruled and the Defendants' Exhibit 4 is admitted in evidence and received in evidence.

MR. MOORE: Defendants' Exhibit No. 4 covers the fiscal year, pardon me, calendar year 1972.

Defendants' Exhibit No. 5 is an identical report for calendar year 1973.

I would ask that it be admitted also.

[38] JUDGE HOLLOWAY: Is there any objections to the Defendants' Exhibit No. 5?

MR. GILBERT: Your Honor, I am sure it will just be the same objections. I haven't received a copy, but I will just make the same objections as before, Your Honor.

JUDGE HOLLOWAY: Very well. The same ruling of the Court applies. The objection is overruled and the Defendants' Exhibit No. 5 is received in evidence.

MR. MOORE: Does the Court desire copies of both of the exhibits?

JUDGE HOLLOWAY: Yes, please. It would be convenient if you have three.

MR. MOORE: Yes, sir, I do.

The next exhibit, the next exhibit, again without supporting testimony, which I would like to offer into evidence, Defendants' Exhibit No. 6, is a report issued by Clarence M. Kelly, the Director of the Federal Bureau of Investigation, a report published by the Bureau and distributed in the course of its business.

Particularly, I would direct the Court's attention to Page 123 and Page 129 of which I have distributed a copy to counsel. I would ask that Defendants' Exhibit No. 6, the report of the Federal Bureau of Investigation be admitted into evidence.

[39] Are you offering the entire report or just the pages you refer to?

MR. MOORE: To expedite it, I would offer the two pages to which I have referred.

JUDGE HOLLOWAY: Perhaps we better have a cover page which shows the date. Isn't there a transmittal letter from those reports, usually, to the President or the Attorney General?

MR. MOORE: No, sir. All I have in my possession is just the report as I have it in my hand.

JUDGE HOLLOWAY: Very well. You maybe better include the cover for identification. Just describe it. I mean, that is what we will say in the record, that you're offering the Pages 123 and 129 and the cover.

MR. MOORE: Yes, sir, that is correct.

JUDGE HOLLOWAY: Very well. Any objections to the Defendants' Exhibit No. 6?

MR. GILBERT: It would be the same objection, Your Honor.

JUDGE HOLLOWAY: I would just inquire of counsel, what it is on Page 123 that he is inviting

attention to. Do you want to indicate to the Court what the relevance of that Page 123 is?

MR. MOORE: Yes, Your Honor.

Well, on Page 123 is Table 129 — I am sorry, I [40] do not have copies to the Court. I have one Xerox and one original. It shows the same classification of the crimes under the Uniform Crime Reporting System as have been testified to by the previous two witnesses.

The offenses of DWI, Liquor Laws and Drunkenness. It shows for the years '67 and '72, it shows the arrest trends from those two years for people under age 18 years of age, not distinguished by sex, to people over 18 years of age.

The exhibit is offered solely for the purposes of showing the trend of crime, if you will, for these offenses over the last five-year period.

JUDGE HOLLOWAY: Very well.

Do you have objections now to Defendants' Exhibit No. 6 consisting of the cover of the report and Pages 123 and 129.

MR. GILBERT: No hearsay objections, Your Honor. My same objection on relevancy.

JUDGE HOLLOWAY: Very well. The objection is overruled and the exhibit consisting of the cover and Pages 123 and 129 of the FBI report — what year was that, please?

MR. MOORE: Year 1972.

JUDGE HOLLOWAY: For 1972, is admitted in evidence.

[41] MR. MOORE: I would apologize to the Court, that is the only copy I have. I would be more than happy to leave this with the Court if they desire.

JUDGE HOLLOWAY: Well, we will have to have — oh, you have made Xerox copies of the pages?

MR. MOORE: Yes, Your Honor. I have one copy.

JUDGE HOLLOWAY: Well, all of us of the Court have that report, I believe, so we will be all right.

MR. MOORE: Okay. Fine.

JUDGE HOLLOWAY: Thank you.

MR. MOORE: The next exhibit I would like to offer is Defendants' Exhibit No. 7 is a report published by the Department of Public Safety, which bears the emblem and seal of the Department with specific reference to Table 4 at Page 7 of the report, which shows driver fatalities by a function of blood alcohol concentration, sex and age.

The sole purpose for requesting the admission of the Minnesota[5] report, is to show that the Oklahoma statistics are at least in line with statistics in other states.

JUDGE HOLLOWAY: Very well. Is there any objections to the Defendants' Exhibit No. 7?

MR. GILBERT: Just the same objections as before, Your Honor.

JUDGE HOLLOWAY: The objection is overruled and the Exhibit No. 7 is received in evidence.

[42] MR. MOORE: Defendants would next like to have admitted in evidence Defendants' Exhibit No. 8. It is a publication entitled, Proceedings of Joint Conference on Alcohol Abuse and Alcoholism. A study financed under the auspices of the U. S. Department of Health, Education and Welfare, U. S. Department of Justice and U. S. Department of Transportation.

There are statistics in the documents which I believe might be relevant to the case at Bar.

The document makes reference to several studies conducted within the last 20 years.

I would specifically invite the Court's attention to Pages 124 through 127, which is a commentary on the study conducted in the State of Michigan where certain

[5]"Minimum" appears in the original.

graphs were made from the data.

JUDGE HOLLOWAY: Well, we don't want to be obliged to read the entire book. If you don't have an interest in it for evidence — what is it, are those just the only pages you're concerned with, 124 to 127?

MR. MOORE: That is correct, Your Honor.

JUDGE HOLLOWAY: Why don't you just offer those parts of it and the cover, so that we are not obliged to examine any further.

MR. MOORE: Very fine. I would ask that Defendants' Exhibit No. 8 be the cover page and Pages 124 [43] through 127 of the report of the Federal Government. I would ask it be admitted into evidence.

JUDGE HOLLOWAY: Is there any objections to Defendants' No. 8?

MR. GILBERT: Same objections as before, Your Honor.

JUDGE HOLLOWAY: Very well, the ruling is the same. The objection is overruled and the Defendants' Exhibit No. 8, consisting of the cover and Page 124 to 127 of the exhibit is received in evidence.

MR. MOORE: Your Honor, I do not have the extract Xeroxed. May I request leave of the Court to substitute a Xerox extraction, in lieu of the complete document.

JUDGE HOLLOWAY: Yes, You may do that.

MR. MOORE: Thank you. Your Honor, that is all the evidence I wish to present at this time. The Defendants rest.

JUDGE HOLLOWAY: Very well. You may proceed.

MR. GILBERT: Your Honor, I am not quite certain how to style the motion or the argument I wish to make.

In plain English, it would be Motion to Demur.

JUDGE HOLLOWAY: We call that a Motion to

Dismiss under Rule 42.

MR. GILBERT: Well, it wouldn't be to dismiss, [44] because we are Plaintiffs.

JUDGE HOLLOWAY: That is right.

MR. GILBERT: Let's call it a Motion for Judgment.

JUDGE HOLLOWAY: Very well.

MR. GILBERT: To outline the argument, the Court may indicate it would prefer to consider this after the conclusion of all evidence.

To outline the argument, I would show that the statistics, even interpreting them in the worst light to the Plaintiffs, that arrests mean convictions and that the figure, 427, means 427 separate individuals, et cetera, et cetera — still, it indicates that at most, there is a population, there is a problem with no more than about 2 percent of the male population, 18 to 20.

Further, that the statistics which the Defendants themselves have introduced, show that there is a jump or an increase of alcohol related problems with males once they achieve 21 and/or older.

I would argue that on the basis of modern constitutional law, it is improper and impermissible to condemn an entire sex because of a characteristic displayed by so few as 2 percent of the population.

Furthermore, it is irrational to discriminate [45] against males 18 to 21 when by the very statistics relied upon by the State, that age category displays the less amount of problem related to alcohol.

If we are going to discriminate against some class of males, it should be males 21 and above, not males 18 to 20.

In support of the argument I will just cite a couple of very recent cases.

In the case of Cleveland Board of Education versus LaFleur, which was decided by the Supreme Court just

this January. Now, that is the pregnant teacher's case. The Supreme Court said the mere fact that some women, when pregnant, are physically incapacitated from teaching school, does not mean that all women are incapacitated from teaching school and that any statute which imposes a sexual sterotype upon the entire class or upon an entire group of people for purely biological or anatomical reasons, just blanket[6], without any regard to individual capabilities, is unconstitutional as a violation of the due process.

JUDGE HOLLOWAY: Counsel, just a moment.

The Court is aware of the case law and of your position which you have made perfectly clear. The motion will be overruled. The Court will permit you to develop your authorities and your arguments actually after the [46] evidence is heard, but we feel we should hear your evidence, if you wish to present it, and the Motion for Judgment is by the entire panel overruled.

MR. GILBERT: Very well.

Your Honor, I would call as the Plaintiffs' first witness, Dr. Joseph Ruffin, M.D.

DR. JOSEPH RUFFIN, M.D.,

having first been duly sworn upon his oath, took the witness stand and testified as follows, to-wit:

DIRECT EXAMINATION

BY MR. GILBERT:

Q Would you state your name and address to the Court, please.

A Joseph Ruffin, 400 Northwest 16th, Oklahoma City.

Q And what is your business, trade or profession, sir?

A I am a physician, specifically a psychiatrist.

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[6]"Blank" appears in the original.

Q And how long have you been practicing the profession of medicine or psychiatry, sir?

A Well, practicing medicine since 1953, psychiatry, in private practice since 1965.

Q Are you licensed to practice medicine by the State of Oklahoma?

A Yes, sir.

[47] Q Would you state your academic degrees and qualifications, Doctor?

A A Bachelor's Degree from the University of Illinois. Primarily in the areas of biology and chemistry. An M.D. from the School[7] of Medicine, Loyola University in Chicago, in 1953.

Q Where did you do your internship, sir?

A At William Beaumont Hospital in El Paso, in 1953.

A All right. Were you an Army doctor?

A For a period of three years, yes, sir.

A All right. Have you ever, have you ever undergone any residency?

A Oh, yes. Two. One is a subspecialty of preventive medicine called Occupational Medicine and Industrial Hygiene, and then subsequent to that I came here to Oklahoma from 1962 to 1965, I was training in psychiatry.

Q Doctor, in your course of scientific studies, have you ever had occasion to study what is commonly called organic chemistry?

A Oh, yes.

Q All right. And, Doctor, in your studies and qualifications to be a doctor, a preventive physician and a psychiatrist, have you ever studied a phenomenon or disease known as alcoholism?

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[7]"Strict" appears in the original.

[48] A Quite a bit.

Q Are you familiar with the causes, symptoms and treatments and social problems caused by the disease of alcoholism?

A Very much.

Q Doctor, in your course of studies, have you ever taken courses involving the study of the sexual hormones or the difference between the respective sexes?

A Yes, sir. That comes up quite frequently.

Q And have you ever studied the psychiatry or the psychology of the adolescent and the young adult?

A Yes.

Q May it please the Court, subject to cross voir dire, I would move to have this witness qualified as an expert witness, competent to express his expert opinion on matters of a biological and psychological nature.

JUDGE HOLLOWAY: Very well. Are the qualifications admitted?

MR. MOORE: Yes, sir, they are.

BY MR. GILBERT:

Q Doctor, to commence your testimony in chief now, are you familiar with the substance known as ethyl alcohol?

A Yes, sir.

Q Would you tell the Court generally what ethyl [49] alcohol is and what its significance to human society is.

A Well, ethyl alcohol is, oh, ethyl alcohol is one of the simpler short-chain alcohols, I mean having two carbons.

Q Feel free to make a drawing.

A Two carbons, and what distinguishes an alcohol is its so-called hydroxin. There are many, many alcohols, but this is ethanol.

Q All right. Could you state some other common

names for ethyl alcohol as we understand them in English?

A Well, you want generally speaking, when we talk about alcohol, this is what we are referring to, ethanol.

A All right, now, is that the same alcohol as alcoholism?

A This is the alcohol of alcoholism, yes. The alcohol that is common to intoxicating beverages.

Q All right, Doctor. Would you explain you your expert language the effect of alcohol upon the human body.

A Okay. Let me say to begin with, that the effect that I am discussing and talking to are those effects upon the central nervous system, central nervous system specifically being the brain and spinal cord, and for the purposes of our discussion, I am discussing effects upon brain or brain tissue.

[50] Central nervous system tissue, this into peripheral nerves that innervate[8] muscles and nerves which sensory impulses originate and are transmitted, so we are talking about central nervous system brain tissue.

MR. MOORE: May I make an objection as to the relevancy of this line of testimony?

JUDGE HOLLOWAY: The objection is overruled.

MR. GILBERT: All right. Your Honor, I think maybe — excuse me, Dr. Ruffin, of course, what we will be driving to later, understand, is the question of sexual differences in the ingestion of alcohol.

A Yes.

Q So, your discussion will be oriented towards that ultimate end, so with that view in mind, explain it to the Court as you feel best.

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[8]"Innovate" appears in the original.

A Okay. I guess the first thing I am aware of is that my discussion is essentially asexual, that is, without sexual references. At least perhaps to the final point at least.

Q Uh-huh.

A Now, let me say, also, that with few exceptions, my best reference for the material that I am alluding to is contained within two volumes titled Actions of Alcohol, by Drs. Wallgran and Barry.

I am prepared to leave these as references.

[51] This is an extraordinary compendium, unbelievably detailed, of all research directed to the actions of alcohol through the year 1970, approximately. It contains every conceivable reference.

MR. MOORE: Excuse me. Will the witness repeat the name of the books, please.

A You want them? I can give them to you.

MR. MOORE: Just the title and authors, please.

A Actions of Alcohol. The authors being Wallgran, W-a-l-l-g-r-a-n, and Barry.

MR. MOORE: Thank you.

A October, 1970.

Now, first, there is the matter of the cellular basis of ethanol on the nervous system and the electrophysiological effects of ethanol upon the nervous system functions have been studied.

Now, very simply, in summary form, what ethanol does is to detroy or at least inhibit or depress the electrical efficiency of nervous tissue. Specifically affecting the behavior of the nerve cell membrane which maintains the charge, that is required for the efficient transportation of the nerve impulse.

In effect, what happens is that ethanol affects the functioning of the nerve cell membrane in such a fashion that the capacity of that nerve cell battery to maintain

[52] the charge and to discharge is impaired[9]. It loses its efficiency in this respect, it becomes depressed.

Now, then there are other effects upon the central nervous system, looking at it in a more global sense.

We can see how electroencephalogram traces indicate regular function of the nervous system becomes depressed.

Other parts of the brain have been studied in more detailed ways, but particularly in lower animals, and again, it is regularly shown that alcohol depresses the electrical functioning of various parts of the nervous system.

There are certainly very little evidence for any stimulant or beneficial effect of anything[10] alcohol does on any sensory capability.

Specific sensory functions have been studied. Specific motor functions have been studied. Specific combinations of sensory and motor functioning have been studied, and in any event, the more complex the task studied, the more ready is the evidence that alcohol does produce a depression or impairment of function.

Lastly, there has been systematic study of complex behavioral effects upon intellectual function. How people behave verbally. Matters of judgment. How their [53] emotionality is influenced by alcohol consumption.

For instance, these have been studied in projective tests. Tests like the "Ink Blot Test" or Rorschach Test are shown that the person under the influence of alcohol becomes increasingly impulsive and superficial and has a tendency to elect risky alternatives, especially in hypothetical situations.

Let me say in summary, and here I refer back again, to the compendium by Wallgran and Barry. There has been a striking absence of systematic sex effect studies as a result of systematic sex effect from alcohol dosage.

[9]"Comparative" appears in the original.
[10]"Any" appear in the original.

There is some evidence, but not much.

Q Let me ask this, Doctor. You define or describe the chemical effect of — first of all, is ethanol the same thing as ethyl alcohol?

A Yes, sir. Ethyl is the two-carbon alcohol.

q. All right. Now, you define the effect of ethyl alcohol as impairing the electrical functioning of nerve cells?

A Yes, sir.

Q Would your statement be true for members of the human species, 18 through 20 years of age?

A Yes.

Q To your knowledge, is there any, either in, to your knowledge, or in the opinion of medical science, is there [54] electrical or anatomical difference in the male and female central system?

A None whatsoever.

Q All right. To your knowledge, is there any difference between males and females and the way that ethyl alcohol gets into the body and is transported throughout the body to the blood or to the nervous system?

A None.

It is absorbed very directly and immediately through the stomach wall. Metabolized almost entirely within the liver.

Q Is that the same for both sexes?

A Yes, sir.

Q Is that the same for all ages, the mechanism?

A Yes.

Q All right. Now, Doctor, sometimes I hear about things called hormones or a chemical difference between male and female.

Could you explain to the Court what that means and whether or not that has any effect upon the, chemi-

cal effect of ethyl alcohol on the central nervous system?

A Well, there certainly are very specific chemical differences between male and female and especially I would guess most distinctively in the matter of the so-called sexual hormones.

[55] Now, there are sex-related hormones that are produced by the adrenal cortex, but the most significant sexual hormones are produced by the sex specific gonads of the male and female.

Again, this is a large — there are large families of these hormones, but essentially the sex hormones produced by the male is one referred to as testosterone. The sex hormone produced by the female is, the female ovary, is estradiol, d-i-o-l, estradiol.

A Is that all one word?

A Yes.

Q Doctor, either in your opinion or in the opinion of medical science, as you understand it or know it, do these sex hormones, testosterone and estradiol, have any effect upon the direction of ethyl alcohol with the function of the central nervous system?

MR. MOORE: Your Honor, I would object to asking any opinion other than his own. His own opinion is fine.

JUDGE HOLLOWAY: The objection is sustained. The question should be confined in this respect to the doctor's own opinon.

BY MR. GILBERT:

Q Doctor, do you have an opinon as to whether or not the sexual hormones that you have mentioned, the varying hormones between the two sexes, have any effect upon [56] the interaction between the central nervous system and ethyl alcohol?

A I would say sexual hormones, specifically, have no such effect.

Q I am sorry?

A Have no such effect.

Q All right. Doctor, let's move from the realm of straight[11] physiology to the realm of psychiatry, or the mind.

With reference to members of the human species, 18 through 20 years of age, is there any evidence or do you have any opinion as to whether or not there is a difference of intelligence between the sexes?

A No difference in intelligence between the sexes from the point of view of formal psychological testing. I have noticed that many, many of my clinical psychologist friends who have considerable expertise in this area are impressed that younger boys — here I am thinking of about children, say, between the 8 and 12, are less interested in the testing situation and so perhaps those are very minor differences and again, by clinical psychologists, not accepted as significant, and my own opinion is, that such differences are really insignificant.

JUDGE HOLLOWAY: Are what?

Are insignificant.

BY MR. GILBERT:

[57] Q Doctor, I sometimes hear a folk myth that girls are more mature than boys or that girls mature earlier than boys. With reference to the human species, specifically 18 to 20, do you have any comments or opinions about this folk myth?

A Okay. Well, when we look closely at that, that phrase, that collection of phrases, it seems to me what people are usually referring to, of course, is, first, the earlier manisfestation of secondary sexual characteristics.

In the developing girl, the girl developing into womanhood — so, this is specifically a physical kind of maturation and the male, you know, runs a couple of

[11] "Trait" appears in the original.

years behind that, two or three.

Secondly, I notice as I have heard people talk about this, they seem to be referring also to the greater propensity, the greater interest that the young woman would have in making marriage, forming a family, the nesting, the interest in nesting, if you would like.

That seems to be what I hear people saying as they talk about the greater maturity during these years of the woman. The developing woman.

A All right. By the time the average human reaches the 18th year, both male and female, do you have [58] an opinion, as to whether or not there is any difference in emotional maturity between the sexes?

A My own clinical — and this is based upon my regular work with young people.

I find no essential difference in their maturational levels from the point of view of their emotional or psychic development. Both of them have a lot of work to do for the rest of their lives.

JUDGE HOLLOWAY: Emotional or what?

A Emotional or psychological development.

BY MR. GILBERT:

A Doctor, are you aware of any scientific or experimental evidence or do you have an opinion regarding the ability, respective[12] ability, of males and females with special emphasis on the 18 to 20 years of age bracket, in their respective abilities to handle alcohol in the normal social context or in the normal context?

A Now, are you referring to the ability to — well, I guess we have already dealth with that, not — are you talking about alcohol using behavior?

Q Right. From the behavioral aspects.

A I see. My impression is that males seem to have

[12]"Respect of" appears in the original.

a greater interest in experimenting with alcohol, or that somehow the use of alcohol, alcohol using behavior seems to be associated with the idea of being a man. So, we see some, [59] you know, experimental interest in some alcohol using behavior that certainly is associated with that. Is that the response to your question?

Q Well, I was thinking more in a biological sense. Can you think of any difference in the male and females' biological ability to handle alcohol?

A Well, now, only one thing occurs to me, and that is that very simply put, women are, on the average, smaller than men and very specifically their volume of body water is less than a man. So, given a fixed dosage of alcohol, a woman will regularly obtain a slightly higher blood level of alcohol than a man would.

Q To your knowledge, Doctor, is that difference which, is that difference enough to be immediately or clinically significant?

A I would say perhaps it is, and we have some slight evidence to that effect in a study that is recently done by Dr. Ben Jones, here at Oklahoma City, in our Center for Alcohol Related Studies.

Q Is that the Dr. Ben Jones who is present here in the courtroom today?

A Yes, And this is titled "Sex Difference in Response to Alcohol" where memory functioning in both men and women have been studied systematically.

Q All right. Now, Doctor, he will be available to [60] testify next. Since it does tie into your testimony, could you just summarize what the findings were, however —

MR. MOORE: I object, Your Honor.

MR. GILBERT: Let me rephrase the question.

JUDGE HOLLOWAY: Very well.

BY MR. GILBERT:

Q Are you familiar with his study and his findings?

A Yes.

Q And do those, do you have a, are those findings consistent with what you understand about the relationship between the nervous system and ethyl alcohol and whatever sexual differences there may be?

A Yes, very much so.

Q All right. Would you summarize then, what those findings were.

MR. MOORE: I renew the objection, Your Honor, I don't feel that Dr. Ruffin is competent to testify from another doctor's report. Especially since that gentleman is present in this courtroom and available to testify.

JUDGE HOLLOWAY: Objection is sustained. You may answer the question as to his own opinion, from his own studies, but to refer briefly or merely to the other doctor's opinion would not be competent.

BY MR. GILBERT:

[61] Q All right. I was just doing it for the sole purpose of linking it up.

JUDGE HOLLOWAY: You can ask him what his opinion is and then ask him if it is the same.

BY MR. GILBERT:

Q All right.

Well, doctor, is your opinion about the respective abilities of young adults to handle alcohol the same as or would they be consistent with Dr. Jones' conclusions?

A Yes. And something I was particularly pleased by was Dr. Jones' incidental observation that perhaps women have even a greater tendency —

MR. MOORE: I object, Your Honor. Let Dr. Jones testify to this.

JUDGE HOLLOWAY: I believe that the objection is well taken in line with the Court's ruling and the

other physician can testify.

MR. GILBERT: Very well.

JUDGE HOLLOWAY: Dr. Ruffin may testify as to his own opinion as to this point you are developing, if you wish, but not merely as to what the other physician —

MR. GILBERT: Yes.

Q Dr. Ruffin, you have heard the order of the Court. If you have something of your own to say, you may say it.

[62] A Yes. Now, I am responding to a finding of Dr. Jones' study, right?

JUDGE HOLLOWAY: Well, you may state your opinion, Doctor, on the question being asked. We are pleased to receive it. Your own opinion.

A Fine. That women tend to become intoxicated, seems to me, a little more readily than males do on the same fixed dosage of alcohol, but also they have an increasing tendency towards intoxication or some type of emotional difficulty that would appear to be a kind of impairment in their premenstrual period.

I have had this clinical impression for a long time. It is quite interesting to me to see it corroborated in the experimental situation.

Q All right, Doctor. You are aware that this is a lawsuit to determine the legality of a statute which allows females to purchase 3.2 percent alcohol at age 18 while males are prohibited thereform until age 21. You are familiar with that, are you not?

A Yes.

Q All right, Doctor. Drawing upon your own expertise, do you have an opinion, based upon either chemistry or biology or neurology or medicine or psychology or psychiatry, as to whether or not this discrimination is rational?

[63] A Specifically, the 18 to 21 years discrimination?

Q Yes, that is right.

A I find no rational basis for such a discrimination.

Q Thank you very much.

You may cross examine.

CROSS EXAMINATION

BY MR. MOORE:

Q Dr. Ruffin, let's just start at the last there. You see no rational basis for the classification, none whatsoever?

A For the classification?

Q Of the state law that we are talking about today.

A Oh, yes.

Q You see absolutely no basis for that classification?

A For that specific classification, no, sir, I do not.

Q Are you talking about now, solely within the terms of biological chemical standpoint or any type of justification? In other words, is your testimony going outside the scope of your expertise or are you just saying that within your area of expertise there is no rational justification? I want to be very clear on that. Am I clear?

[64] A No, I am not understanding your question.

Q Well, it is a very important statement you made, Dr. Ruffin. You said that there was no rational justification for the state law which we are talking about.

A For this discrimination or ages between 18 and 21?

Q That is right.

Can you say there is absolutely no rational justification or is there just merely no rational justification from biological, sociological or psychiatric standpoint?

A I would say none from a biological, sociological

or psychiatric standpoint, yes.

Q Thank you.

Now, I am sorry, you said, but I don't recall, how long have you been a practicing psychiatrist?

A Since 1965.

Q About nine years?

A Yes.

Q Do you specialize in the treatment of alcoholics? Do I gather that from your testimony?

A Actually, I do a great deal of work with alcoholics, yes.

Q How many patients have you had, male, female, in this age group which we are talking about, 18 through 21? [65] Generally, I don't certainly require a precise number.

A You mean people who would be defined as alcoholics?

Q Patients, people who have come under your observation, hundreds, thousands, ten —

A Well, I would say several hundred.

Q And how many of those several hundred have been alcoholics, male and female? Could you generalize?

A I would say what you and I and probably all members of this Court regularly define as alcoholism is seldom defined in this group of people, seldom defined. We see alcohol use, but not someone labeled as alcoholics. I am not saying it doesn't exist. I am saying you seldom find it.

Q What is your definition of an alcoholic then? The chronic problem drinker?

A That is certainly the ultimate statement of alcoholism.

Q Habitual user?

A Yes, and also compulsive use. You know, inability

to take a drink and stop. That is certainly a very fine definition.

Q Have you seen any chronic compulsive drinkers in this age group, 18 through 21, male or female?

A Perhaps I have seen someone, 20, 21, I think I [66] have seen a few young males like that, yes. Most of what I see in this age group is the use of other chemicals, other than alcohol, other drugs.

Q I see. So, you have seen some males 21 and 22 or within your definition, alcoholics, but no females. Is that correct? Am I accurately summarizing your testimony?

A Offhand, I can think of two young women who were alcohol abusers too. I have seen more males than females.

Q More males than females?

A Oh, yes, yes.

Q Now, obviously, then, most of the alcoholics or problem drinkers, which you treat, are older in age then. Is that correct?

A Most of those would eventually come into treatment, yes.

Q Now, in the course of your therapy with these people, could you generalize as to what time they started drinking?

A Oh, it is amazing. I am surprised at how often many of these people will tell, beginning to drink at 9, 10, 11, 12.

Q 18, 19, 20, 21?

A Usually earlier, usually earlier.

Q Is there any variation that you could state with [67] regard to males and females when they start drinking? Would there be any age variation there, generally speaking?

A Well —

Q If the question is too general, feel free to tell me.

A No, let me think about it for a minute.

My impression would be that a woman might start drinking later.

Q Okay. Now, during your direct testimony — well, let me recap for a moment.

Your testimony was that as a general statement, women start drinking later than men. Is that correct? And that is based upon your experience with alcoholics that you have treated in later life and you go back and question them as to when they started. Is that a correct brief summary of what you have said?

A Yes. I am sure the question has been more systematically studied.

Q But — well, isn't one of the problems in this area, and correct me if I am wrong, but isn't one of the problems in this area is that there have been a lot of studies conducted and statistics in the area of alcoholism as a function of age and sex. Is that an accurate statement?

A It is certainly what I have found, yes.

[68] Q So, we —

JUDGE HOLLOWAY: Pardon me, but do you mean yes, there have not been many studies done on it?

A Yes, there have not been many studies. That is very evident in this book. There are a lot of references to sex related differences, that is through 1970.

BY MR. MOORE:

Q I am sorry. I didn't hear the statement you made to the Court there.

There are, are there not, a lot of studies in the book?

A No, there are very few studies in the book, studies of orangutans and chimps and rats and mice.

Q So, we are dealing with limited data. Is that right?

A That is right.

Q Okay. In the course of your direct testimony, you referred to the idea that women mature faster than men. Men mature faster than women. Now, were you speaking of that in a lay sense or — let me ask you this. Is there a credible theory within your position that men mature slower than women?

A None whatsoever.

Q There is no such credible doctrine, even though you don't agree with it?

[69] A Now, wait a minute, let me be specific now. There is no disagreement with the generalization that women mature, physically, you know, sooner than you do.

A That is what you call the primary?

A Secondary characteristics.

A I am sorry, secondary.

A Now, as far as the psychic or emotional development, I would say essentially no difference and here, of course, we are getting into, you know, a nice argument about what constitutes psychic or emotional maturation.

Q You said essentially no difference. Is there any difference?

A None that I could find in my own work.

Q So, it is your opinion that there is no difference in a psychiatric point of view between the maturity levels of men and women?

A Yes.

Q Is there a credible psychiatric school of thought to the contrary?

A No. I would say that psychiatric schools of thought, these days, with reference to the issue of maturity —

Q Yes.

A — are achieving a remarkable degree of consistency, [70] which is unusual in psychiatric work, I may add. And here, if you wish, I can cite, you know, two references.

Q No, I think you have made your point.

A You see, simply that the maturation or the maturation process is essentially a lifetime task, you know, proceeds continually through life. Through marriage, through growth of children and on through death, and as a matter of fact, how we handle death is an expression of our degree of maturity.

Q So, professionally speaking, I am talking about your profession — there is no credible school of thought which supports the proposition that men mature slower, is that correct?

A Right.

Q Is there, have you heard lay people express this opinion?

A Yes, it is a common myth, it is a common myth.

Q Do you think it, if those lay people might include legislatures —

MR. GILBERT: I object. That is getting opinions out of the doctor's field of expertise.

JUDGE HOLLOWAY: The objection is sustained. We believe the question is argumentative.

BY MR. MOORE:

Q Well, let me get to this lay opinion, if you will. [71] You were talking about maturity. I guess in a practical sense, in terms of the nesting characteristic of women or a woman during this age period. A woman shows more compensity to settle down.

A Yes.

Q That is what most people think?

A Uh-huh.

Q And that is what they refer to when they talk about different levels of maturity, is that correct?

A That is correct, that and the greater tendency toward quietness and less rambunctiousness.

Q Do you agree with that?

A Do I agree with what?

Q That women show a nesting instinct or settling down instinct or whatever you want to call it?

A I think women are quieter people. They are less active and that is readily demonstrated beginning in the early years of development.

Q So, I am not a psychiatrist, but if I were to say that maturity to me means settling down, let's assume that, then it would be accurate to say that men mature later than women. Is that correct?

A Well, by your definition.

Q You were present in the courtroom during the statistical data which I went through, which showed the [72] various arrest levels, were you not?

A Yes, uh-huh.

Q Without showing you those in detail, they show that males are arrested a lot more than females.

A Uh-huh.

Q For operating an open saloon, possession of liquor, public drunk, all types of offenses. Why is that? Do you have any professional opinion as to that?

Do you have any professional explanation for the statistics which I have offered today or any comment on them?

A Oh, I have some comments on them, yes.

Q Well, I would welcome them.

A Okay. Let's see, let me just — no, the two that you presented to the Court initially, your two first exhibits.

Let's see, I have seen neither of these previously.

The first is that a copy of the report presented by Mr. Wallock.

Q Yes, sir.

A Now, here I am just, you know, roughly, eyeballing —

Q Well, I don't want you to — it is not necessary to examine the statistics in detail.

A Well, I am talking about a rough eyeballing.

Q Can you account for that difference from a [73] professional point of view, from the psychiatric point of view?

A Oh, I see it is just normal, you know, this is how, this is how boys and girls are in our society where alcohol is available.

Q Boys drink more than girls?

A I don't know that. They may. All right, secondly, somehow they come to the attention of the law more readily, however that —

Q So, there is two possibilities.

A Right.

Q It is possible that boys drink more than girls and it is possible that boys are under the scrutiny of the law enforcement authorities more than girls?

A Uh-huh. Well, what I am impressed with is that the male, female differential, not boy and girl differential.

Q Now, let me ask you another question in winding up here.

You testified, there may be some overlap here, but you testified to the behavioral aspects of alcohol?

A Uh-huh.

Q And you said that the male shows a greater propensity to experiment. Could you elaborate on that. Are you saying that a male might be more inclined to experiment with alcohol than a female in ages of 18 through 21?

[74] A That seems to be so. We study, you know, a pure group of males, that —

Q What do you attribute this innate curiosity or experiment — Is there any known explanation for it?

A Well, none except the proclivity that is, again, how should I say, immensely normal during adolescence and particularly in connection with the issue of one's peer group.

Q Is it true that males are more aggressive than females?

A I don't think there is any question that males are much more active and much more, what you would call aggressive.

Q In all aspects of their human conduct, whether it be business, fighting, driving, drinking?

A Well, I can't say in all aspects, but I think very prominently so, and very generally so.

Q So, if an 18-year-old female had about three beers and an 18-year-old male has about three beers and they both slipped behind the wheel of separate cars, it is not inconsistent to think that the male would be more aggressive?

A Well, there is several considerations there. First, the problem in management of aggression is usually associated with whatever other kinds of emotional conflicts [75] exist within the individual at that moment.

In other words, I can be a very aggressive person. Okay, I am of a high activity behavior, but to behave impulsively and get out of control, you see, that is the point of discrimination right there, where things get out of control. We no longer — that is another matter, you see.

Q Well, perhaps that is what I should have talked about then.

A Okay.

Q Would the males be more impulsive?

A Not necessarily. You see, here, we all carry a lot of emotional conflict within us that differs considerably at different points in time and circumstance.

Now, when a person takes in alcohol and is in the state of considerable emotional tension, the probability of losing control is much greater. I don't think that males are uniquely afflicted in this respect.

Q Well, I am not a psychiatrist, Doctor, and I am having a little difficulty. I am just a lay person. You made the statement initially that males were more aggressive than females.

Now, how does that tie into your statement which you have just made there, of, can you define what we are talking about, aggression?

[76] A Okay.

Q As it would relate to drinking, if at all?

A Well, I tell you in my own notes, I do not prefer to use the word "aggression." I prefer rather to talk about activity or drive behavior.

Q I beg your pardon?

A Activity or drive behavior, because if we can contrast males and females — let's go to the playground situation. Looking at children in kindergarten or shortly after kindergarten, we see different, definite differences in the play characteristics of males and females.

Q Well —

A Now the males are labeled as being more aggressive. The males are labeled to be more aggressive. They're rougher, more body contact, more action within any particular space.

Q And this continues throughout their lives?

A Yes, sir.

Q Through the years 18 through 21?

A Uh-huh. Males have more muscles to put to work and they put them to work.

Q Is this an environmental function of one's character? Is it innate?

A I think it is basically biological. Dr. Carlotti, University of Wisconsin, in the Institute for Primate Studies, [77] has made the same observations with Rhesus monkies, just observing their normal development.

Q So, this characteristic is not derived from one's environment or culture. It is innate?

A For the most part, I think a certain amount can be taught, but I think most of it is essentially biological.

Q And that is this aggressive attitude or increased activity or however you want to characterize it?

A Greater activity behavior.

Q And it continues throughout the life of the male?

A Throughout the lives, I think it has a tendency to slow down, perhaps in the fifth decade.

Q Excuse me?

A I think it would tend to slow down in the fifth decade.

Q Would it be more acute if at all during the ages of 18 through 21?

A No.

Q When does this aggression or when does it rise and when does it fall?

A Oh, dear, that would be a curve of my own creation.

Q Well, I welcome your opinion.

[78] A Okay.

Q Would it be on the upslope or the downslope during the age 18 through 21? That is obviously what I am interested in.

A Yes. Well, in the first place, I see it as being more in a level phase, with the greatest period of activity being in earlier childhood, activity differential

between male and female being in earlier childhood.

Q So, we have got the curve rising and it is leveling?

A Yes, I kind of see it leveling out at 13, 14, 15, maybe.

Q Would it be at its high point — would it ever go any higher in subsequent years, generally speaking? I realize that there are —

A I don't believe so, no, sir.

Q That is all I have, thank you very much.

REDIRECT EXAMINATION

BY MR. GILBERT:

Q Dr. Ruffin, I believe there was opposing counsel, asked you if you were aware of a lay opinion that males mature later than females. You said you were familiar that there was such a lay opinion.

A Oh, yes.

Q Doctor, have you ever heard or do you know, is [79] there a lay opinion that Negroes are inferior to Caucasians?

MR. MOORE: I object, Your Honor. That has no relevancy to the issues in this case.

JUDGE HOLLOWAY: Objection sustained.

MR. GILBERT: Your Honor, I would propose that the relevancy would — well, very well.

JUDGE HOLLOWAY: I think that is far afield of what our inquiry is today. We are all agreed.

BY MR. GILBERT:

Q Doctor, are you familiar whether or not there is a lay opinion that some racial groups have a greater alcohol problem than other racial groups?

MR. MOORE: Your Honor, I object. I have heard this line of argument. We are not dealing with classifications based upon race. If we were, I would concede

error. I assure you I object to the question.

JUDGE HOLLOWAY: Objection is sustained.

MR. GILBERT: All right.

Q Now, Doctor, I heard on cross examination some talk about aggressiveness. Opposing counsel was, I believe, was trying to get you to answer that males were more aggressive than females and I believe you answered that they were more active than females.

A I prefer that as my point of departure, yes.

Q I am sorry?

[80] A I prefer that as my point of departure, yes.

Q All right. Let me ask you this. Assuming that the word "aggressiveness" or activity, whatever we want to call it, has some meaning, is this a characteristic which is exhibited by 100 percent of all males?

A We are talking about aggressiveness as it becomes impulsiveness and hostility.

Q Well, let's say aggressiveness to an extent of being a social problem?

A No, it wouldn't be.

Q Could you give an estimate, based upon your experience or knowledge or opinion as to what percentage of males have an aggressiveness problem, let's call it?

A Well, you know, two perspectives. First there is the clinical perspective and here I only know what comes to my attention. But among the people who I see in the clinical situation, we can say there is a considerable problem with aggressiveness and its management. Although most of it even under those circumstances, are pretty well disciplined. If I were a consultant, say, to McAlester,[13] which I am not, I would see a much greater problem to consider.

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[13]The site of the Oklahoma State Penitentiary.

As I look up and down the street, and consider the world I live in, outside of the office, it seems to me that the vast, vast, vast majority of males do a very decent [81] job of managing their excessive, what might be, their tendency toward excessive, aggressive behavior, if you like, hostile behavior. Do a very nice job of that.

Q Could you give us any kind of percentage estimate as to taking the population as a whole?

What percentage of the male population has an aggressiveness problem?

A That would be the range, I say, of guesses, but I would be thinking in terms of less than 5 percent or less than 3 percent.

Q Now, do females ever display an aggressiveness problem?

A Oh, yes, yes.

Q Could you give us an estimate as to what percentage a female might display in aggressiveness problems?

A I put it in the same percentage range, but here we are talking about such a tiny percentage. It, I think what I am struggling with here is again, I am a peculiar sample of my own clinical experience. I have recently, in the last couple of years, seen an extraordinary number of very hostile women and that is just a sample of my own clinical experience.

Q Could you give us an estimate of males and females having an aggressiveness problem within the 18 to 20 or 18 through 20 years old age category?

[82] A From my own clinical perspective, I really don't find any difference between them.

Q All right, let me ask this, Doctor. I am going to ask the question, if it has no meaning, just say so.

A Okay.

Q Could you give us an estimate, percentagewise, as to how much more aggressive the average male is beyond the average female?

MR. MOORE: Your Honor, I don't really — well, if he — the question is so speculative. I wish counsel would at least lay a little better predicate for it. It is just beyond me, perhaps he can help me.

A Well, of course, it is beyond me, too.

BY MR. GILBERT:

Q Well, do I understand that that question has no real meaning then?

A No, I can't respond to that.

Q Well, let's raise it with the terminology you want and use it and if it still doesn't have any meaning, say so. Could you give us an estimate of how, in percentagewise, how much more active the "average male" is over and above the "average female"?

A I am impressed with the leveling off, as I suggested before, of, you know, this more active behavior, [83] this need for activity as one moves later into adolescence, it seems to level off.

Q Okay. Now, let me ask a couple of other percentate questions, if you know.

With reference to — well, I will ask both the population as a whole and then with reference to the 18 to 21 years of age.

What percentage of males, and then females, have what you would call an alcohol problem to such an extent that they present some danger, if they have access to alcohol?

A I really don't know. I am impressed, though that, if I understand alcohol, and this I know largely through other people's work, in latent age, in both males and females, but I have no way of responding to a percentage question.

Q Let me ask you this. Would it, say, over 51 percent of it —

A No, no, we are talking about a very, very tiny percentage of the population. Again, I would say —

JUDGE HOLLOWAY: Just a minute, just a minute, Doctor.

Do you have an objection?

MR. MOORE: I am sorry, I don't like to object, but I must. He has indicated, I believe, that he is testifying [84] on the basis of other people's work. His own opinion is just fine. Based upon his clinical experience. I have absolutely no objection to that, but I do object to him giving opinions or any kind of evidence from the work of other people.

JUDGE HOLLOWAY: It is — all right, the question will be, the objection will be overruled. If the witness has his own opinion on the matter, he may answer the question.

BY MR. GILBERT:

Q Do you have an opinion?

JUDGE HOLLOWAY: Let him answer the question now.

The question has been put. Don't put another question and we will have another objection. You have got the question.

BY MR. GILBERT:

Q You have heard the question as it was read by the Reporter.

A Okay. My first estimate would be certainly less than 5 percent and I would think, we are talking about maybe one or two percent of the population.

Q Now, is there a different percentage, Doctor, for male and female?

A None that I can define.

Q All right. Okay, now, I just have one other

[85] question, Doctor.

I notice that, I meant to ask this on direct. Do you have some books or volumes present at the witness stand with you?

A Yes, I have them.

Q You identified the two-volume work.

You have another book there, would you identify that book.

A Oh, this was a study. This book here, this was a study done by the, under the auspices of Medical Research Council, which is a special agency of Government in England and it is the effect of small dosages of alcohol on a skill resembling driving. That is done in 1959.

It was done in, typically, the way the English do it, and there is one reference here to sex differences.

MR. MOORE: Excuse me, may I object at this point? I don't know that this is competent for testimony. However, the basis for my objection is, it is outside the scope of my cross examination. Even on a more practical grounds, this is material which I have never heard of and have not had a chance to examine. As counsel has had a chance to examine my material. So, I object on those three bases.

JUDGE HOLLOWAY: Well, the witness has already given a general statement without revealing any of the tenor [86] of the document. So, I don't think there is any grounds for an objection at this time. It will be overruled.

If we get an offer of the exhibit, or an offer of the substance of what it is, or what is in it, then you may object to it.

BY MR. GILBERT:

Q Dr. Ruffin, in those works that you have, could

you identify the pages of relevance to this sexual differentiation?

A Yes. Page 55 provides a summary statement.

Q Is that in the British work?

A Yes, sir, that is what I am talking about. And on Page 16 there is a reference of the alcohol doses that were administered in the experiment.

Q All right. Now, are, in the two-volume book that you referred to earlier, are there any pages of relevance that you feel —

A Nothing.

Q Your Honor, subject to objection and subject to withdrawing the exhibit later, since it is a library book, I would offer Page 55 of the British work that the witness has referred to.

MR. MOORE: Please note my objection on the same grounds that I have previously stated.

JUDGE HOLLOWAY: Let's get the objection on the [87] record because I am not clear on it.

The Court doesn't know just what you're objecting to. There has been an offer of Page 55 of this British work on alcohol studies.

MR. MOORE: May I see that.

Well, Your Honor, the basis of my objection was, it was certainly outside the scope of direct and cross examination and also we have a study from Britain which is several years ago, oh, over ten years, about fifteen years ago, and I was not provided a copy or given the reference to this book so that I could study, prior to coming here today, this morning, so that I could cover an intelligent cross examination. I object on those three grounds.

JUDGE HOLLOWAY: The objection is sustained. The Court feels that the objection questioning the denial of the right to cross examine the proponent of the

exhibit really raises the hearsay objection which is here good; and also that the witness is offering the testimony of another party and therefore the objection is sustained.

MR. GILBERT: Let me just ask one final question.

Q Doctor, is your opinion the same as reflected in the British study?

A Yes.

Q All right. I have no further redirect examination, Your Honor.

[88] BY JUDGE HOLLOWAY:

Q Dr. Ruffin, let me ask you one thing, please. Where I am confused, in your direct testimony, you related having seen several hundred cases of what the Court would recognize as alcoholic persons; is that correct, in your clinical studies?

A No, sir.

My response to several hundred was that in terms of, or a couple of hundred, at least, would be of young people. Wasn't that the question?

Q Of young people?

A Yes.

Q Very well. Did you make — I may have my notes in error. I thought you testified that there were more males than females in your opinion, from your clinical studies, that were in the group of alcohol users?

A Yes, yes, sir.

Q Is that true with reference to the 18 to 21 age group?

A It would be, really — Your Honor, it is true all the way through, beginning, 3, 4, 5 years of age, but I see many more men, or many more males than females.

A That have the difficulty that you —

A Some species of difficulty, some kind of difficulty that brings them to the attention of the — that

[89] is generally true in the psychiatric channels that we follow. In the guidance centers where we consult them, we see as many as — let's see, I think the preponderance of males over females would be anywhere from three or four up to seven to six, to seven to one and we are talking about children of all ages. So, this is normal statistically.

Q That three or four, up to six or seven to one as a radio of problem of males over females?

A Right.

Q With alcohol abuse?

A No, no, I am only talking about total referrals now.

Q Total referrals?

A Total referrals.

Q Well, I was referring to your testimony that I thought I understood that you saw more males than females having difficulty with alcohol abuse.

A Yes, sir. That is generally true. And again that is true all through life.

Q In the 18 to 21 and all age groups?

A 18 to 21 sample is a very small sample of the, tiny sample of the total use of people using alcohol.

Q Well, from your own clinical studies of your own patients, is that observation true that there are more male than female patients having difficulty with alcohol at [90] the ages of 18 to 21 in that small group?

A You can tell from how I am responding to this, I really can't say with confidence, yes. If so, it is not part of my experience, not with conviction, no, sir.

Q Very well, thank you.

Anything further of this witness?

MR. GILBERT: Your Honor, I think I have gotten confused on one point. If I could clarify it.

JUDGE HOLLOWAY: You may examine further.

REDIRECT EXAMINATION

BY MR. GILBERT:

Q Doctor, I believe you, pursuant to His Honor's question, you said you see about, well, considerably more males with alcohol problems than females.

A Overall, yes, sir.

Q Now, do I understand that you're saying that there are more men with alcohol problems or do you just see more men with alcohol problems?

A Well, if what I see, you know, is what I see, and I don't know about the validity of the sample, but, yes, I think it is. There is no question about it. It is generally accepted that males are much more grievious, much more serious alcohol abusers. But that is generally, that becomes evident in the 4th and 5th decades. Alcoholics are not usually defined as alcoholics, as problem drinkers, [91] until the 4th or 5th decade. Almost without exceptions, people I have seen in my office are in that group and yet I have practiced, at one time, I will be working with someone seven years old and someone seventy years old, but among alcohol abusers, defined as such, they are almost without exception, defined within the 4th and 5th decades.

Q Well, do I understand from that —

A Between thirty and fifty years of age.

Q That among males you have fewer alcohol problems in the 18 through 20 age group than you do in later life?

A Yes. You just don't see them defined as alcohol problems.

Q I see. Very well, thank you.

JUDGE HOLLOWAY: Anything further of the witness?

MR. MOORE: No, Your Honor.

JUDGE HOLLOWAY: May he be excused?

Just a minute.

BY JUDGE DAUGHERTY:

Q You're a biologist, are you?

A Well, sir, as much as a physician is — yes.

Q Well, what is the science of biology?

Q Particularly —

Q As it relates to this case.

A Sir?

Q As it relates to this case. Where we are talking [92] about men and women. Can you just tell me generally what is explained within biology?

A Well, biology is the study of living systems.

Q All right.

A Living systems, yes.

Q All right. And there is a difference in the living system of a man and a woman, I take it?

A Some differences, yes, sir.

Q Now, is there any difference between the two when it comes to them consuming beer, with particular reference to the 18 to 21 year bracket?

A The only difference that I would see — well, it is — let's just start it from, a strictly biological dimension to a social dimension —

Q Why don't you just keep it on a biological basis?

A All right. To stay within the biological dimension, we see that women have less body water in which a specific dose of beer might be diluted, so they would tend to have a higher blood level of alcohol in response to a specific dose. That is one thing.

Then, we have a different thing. This is, you know, this is a well-established difference. A difference then in so-called fluid compartments of males and females.

Secondly, there are these — let me say one other [93] thing. It appears there is no difference in the rates

at which alcohol is metabolized to males and females. The efficiency[14] of metabolism is the same. All right.

Now, I do think that there are some so-called interactional defects between the, I will put it this way, there is some kind of interactional effects between alcohol and the physiological state that exists in the premenstrual woman.

I think these are beginning to be defined.

Now, those would be my responses to strictly biological questions.

Q Is there any biological reason why a female should be exposed to beer at 18 and a male not exposed to beer until 21?

A No, sir, none that I can define.

Q Do you have any explanation as to why statistics show[15] that males have more alcoholic criminal arrests than women?

A Overall?

Q Yes, during this age.

A Well —

Q Has it got any biological reason?

A What things are happening, first, let me say, I am not impressed that these statistics show that. That is my own personal response to their cursory review.

[94] Now, talking about overall criminal review —

Q No, I didn't talk about overall. I am limiting it to the drinking offenses.

Now, is there any reason why, when you take one of these age brackets and compare men and women that you have 10 times as many men having a drinking criminal result than you have for a woman. I want to know if there is any biological reason for it?

A I know of no biological reason.

[14]"Deficiency" appears in the original.

[15]"Know" appears in the original.

Q Do you have any idea what the reason is?

A I think it more socially determined and I think it is socially determined right on through life. I don't really think it is peculiar to this period and at least at, as I scrutinize these statistics, it is a consistent finding through life.

In other words, that males do tend to use alcohol more readily and more readily to the point of it being identifiable abuse. But, not just in the 18 to 21 year period.

Now, there is no question about the difficulties, the disparities, it runs 10 to 1. A very consistent thing here.

Q Well, do you see any rational basis then why the legislature should say, men, you can't get beer until you're 21; women, you can get it at 18.

[95] A No, sir, I find no rational basis for that.

Q You think both of them should get it at the same age?

A Yes.

Q Okay.

BY JUDGE HOLLOWAY:

Q Psychologically, would your answers be the same in the difference between men and women?

Judge Daugherty has been speaking biologically.

A Yes, yes, I understand what you mean.

As a public health practitioner, a person with that kind of orientation, also as a citizen who is not interested in being killed prematurely by a misbehaving alcohol abusing driver, I would love to see alcohol totally excluded and I suppose if we are going to discriminate, we would totally exclude it from males and if we are going to discriminate within women we would totally exclude it from women within the last one-fourth of their menstrual cycle.

JUDGE DAUGHERTY: We tried that and it didn't seem to work.

A I know.

JUDGE DAUGHERTY: So, why don't you answer the Judge's question about whether there is a psychological difference.

[96] A Sir, I misunderstood you.

Didn't I answer it?

JUDGE HOLLOWAY: No, I don't think you did. You got off on the prohibition talk which I didn't think was relevant to the question.

A But, I am saying, if we are talking about using psychological differences, I am talking about the interaction between, you know, this activity factor which is characteristic, you know, characteristics normal in males and also what is, you know, a culture characteristic of our society, when males learn to use alcohol. We don't see this in other societies. We don't see this kind of alcohol abusing behavior.

Apparently in the Israeli or Italian —

Q Dr. Ruffin, what I meant to ask you simply, was this in line with Judge Daugherty's questions, psychologically, do you see a rational basis for a difference such as in this statute permitting the women at the age of 18 to have beer and men not until 21? Psychologically, is there a rational basis for it?

A No, sir, I see no basis for it whatsoever.

BY JUDGE DAUGHERTY:

Q What about the fact that men are more active and more, have more accidents, more driving alcohol oriented accidents? Is that psychological?

[97] A In the broadest sense, yes, sir.

Q Why isn't there some rationale then to keep beer away from people who are going to be more active by drinking it and have more drinking offenses, both

driving and otherwise?

A Well, I did respond to that question, I thought, when Judge Holloway spoke to me previously. That became a lecture on prohibition.

Q Well, if you take an 18-year-old man and and 18-year-old woman and you give them both some beer and the man is going to be more active with it, and he is going to have more drinking offenses with it, isnt' there some rationale in saying, let's just wait about three years before you get it, maybe things will even up then?

A Yes, sir, but in the interest of public health, I would like to see it wait some more.

Q But that is up to the Legislature. They have decided this 18 to 21 bit. It has been attacked as having absolutely no rationale whatsoever.

A Well, it, all right, it is a bit of legislation in the interest of controlling a tiny part of the problem. You know, I can see that.

Q Does it have the effect of controlling a tiny part of the problem?

A I really don't know how effective it is. I don't

[98] know that.

Q Well, does it have a tendency to have an effect?

A Hopefully it would. I don't know though.

Q All right.

JUDGE HOLLOWAY: Anything further of Dr. Ruffin?

MR. MOORE: No, Your Honor.

JUDGE HOLLOWAY: May he be excused?

MR. MOORE: Yes, Your Honor, he may.

JUDGE HOLLOWAY: Thank you, Dr. Ruffin, you may be excused.

MR. MOORE: Your Honor, may I impose on the Court for a three-minute recess?

JUDGE HOLLOWAY: We are going to consider that problem right now, if you will wait just a minute, Mr. Moore.

How long approximately do you think the testimony from the next witness may be?

MR. GILBERT: Your Honor, I don't think his testimony, unless he expresses a disagreement, would be more than 10 minutes.

JUDGE HOLLOWAY: Your direct examination?

MR. GILBERT: Yes, sir.

JUDGE HOLLOWAY: We will be in recess for ten minutes.

(Thereupon, a brief recess was had pursuant to [99] which the following proceedings were had in open court with all appearances the same as before the recess.)

JUDGE HOLLOWAY: Call your next witness.

MR. GILBERT: Your Honor, the Plaintiffs would next call Mr. Ben Jones.

JUDGE HOLLOWAY: Very well.

DR. BEN JONES,

having first been duly sworn upon his oath, took the witness stand and testified as follows, to-wit:

DIRECT EXAMINATION

BY MR. GILBERT:

Q Would you state your name and address, please sir.

A Ben Jones, 7414 Lyrewood Lane.

Q What is your business or trade or profession?

A I am a research psychologist.

Q And by whom are you employed?

A University of Oklahoma, Health Science Center.

Q All right. Is that a part of the University of Oklahoma Medical School?

A Yes, sir, it is.

Q All right. What do you actually do there, sir?

A I am a, I am Assistant Professor of Psychology, Department of Psychiatry there, and I am at the Center for [100] Alcohol Related Studies on 15th and Lincoln, which is a division of the Department of Psychiatry.

JUDGE EUBANKS: Speak louder, please.

A All right, I am sorry.

I am Assistant Professor in the Department of Psychiatry at the Medical Center and carry on research for the Center of Alcohol Related Studies at 15th and North Lincoln, which is within the Department of Psychiatry and research projects on, going on there, that are concerned with mainly the behavioral effects of alcohol on humans.

BY MR. GILBERT:

Q Would you state to the Court your professional and academic degrees of qualifications.

A I have received a BS from Oklahoma State University in 1965. A Ph.D. from the University of Oklahoma in 1972.

Q What is your degrees?

A They're both in psychology.

Q All right. Is your Ph.D. in any particular area of psychology?

A Yes, it is called Biological Psychology.

Q All right. And are you the same Ben Jones whose study was referred to in this case?

Q Yes, sir, I am.

Q All right. May it please the Court, subject to [101] cross voir dire, I would ask to have this witness qualified as an expert, biological psychology.

JUDGE HOLLOWAY: Is there any examination you wish to make or do you have a statement about the qualifications of the witness, Mr. Moore?

MR. MOORE: No, Your Honor.

JUDGE HOLLOWAY: No objections?

MR. MOORE: No.

JUDGE HOLLOWAY: You admit the qualifications?

MR. MOORE: Yes, Your Honor, I do.

JUDGE HOLLOWAY: Very well.

BY MR. GILBERT:

Q Now, Dr. Jones, have you had an occasion to make a study of the effects of alcohol upon young adults of the male and female sexes?

A Yes, I have.

Q All right, now, was this study the same study that the previous witness was referring to?

A Yes, sir, it is.

Q All right, Dr. Jones, in your own language, would you please just summarize or explain to the Court what your study was and what conclusions were drawn from it. What the experimental evidence was and what happened and what the, what you found out about the sexual differentiation on the handling of alcohol to be?

[102] A Briefly, in background, was involved when we, we had been testing mainly male subjects in our Center for Alcohol Related Studies and this is the traditional and most drug researched.

We did have occasions, several times, to test females, female subjects, and discover that on the dose, calculated on pound per body weight, that the females get very ill and could not finish the study and that became very interesting to us because it appeared as though the women were not able to drink as much alcohol as the men.

So, we decided for them to take a formal[16] study

[16]"Form and" appears in the original.

to determine that this was general to the population we were working at.

So, essentially, what we did, we tested 20 females and 10 males. We administered .3 milliliters beer, part of 190 proof, USP, ethanol, and mixed it with the body weight and mixed it with the orange drink to something like a screwdriver and asked them to drink this and monitored the blood alcohol level using a Stevens Model 900 Breath-O-Lyzer, which is a model used by the highway patrol in the State of Oklahoma.

We administered a behavioral test, because a verbal memory test —

Q Excuse me, Doctor, if you could speak a little slower, I think it might help.

[103] A Okay. We asked the, all the individuals to do the test, before we administered the alcohol, to determine there were no differences between the males and the females before they drank the alcohol.

After consuming the alcohol, we began testing them and found that on one aspect of memory test, the delayed memory part that the women actually performed a little worse than the males. Overall, everyone did worse under alcohol.

The other finding was that even though the subjects were administered the same dose of alcohol per pound body weight, the females reached a statistically significant higher blood alcohol level than the males did. And from our observations, the females on the whole became more intoxicated on a set amount of alcohol than males did.

We also asked the women to come in at two different times in their menstrual cycle, either Day 1 of the menstrual cycle or Day 14 of the menstrual cycle. The one who, the others came in Day 14 and Day 28 of their menstrual cycle and in general what we found

was that during the premenstrual period, which is about a week before the beginning of the menstrual flow, approximate Day 25 to Day 28, that the women that were tested in this time period achieved a much higher blood alcohol level than [104] the women that were tested at the other times during the menstrual cycle.

So, in general we came to several major conclusions. One, that when women are given the same amount of alcohol per pound of body weight that they will reach a higher peak blood level, blood alcohol level, than males will and that when women are tested during the premenstrual period, during the menstrual cycle, they will obtain a higher blood alcohol level than they will at other times.

And three, that on this particular memory test, that women were more affected than males with this dose of alcohol.

A Okay, Doctor. Let me just clear up a few things. You talked about equal amounts of alcohol per body weight. Does that mean that, say, both the male and female subjects took exactly the same amount of alcohol, or what does that mean?

A Okay. As Dr. Ruffin explained, alcohol is distributed throughout the body proportionate to the amount of water in the body and also according to the body weight. So, we would weigh the individual and then calculate how much alcohol to administer depending on how much that person weighed. So, if we tested a male and female and they both weighed 100 pounds, for instance, they would both get the [105] identical quantity of alcohol.

Now, let me mention, as Dr. Ruffin mentioned earlier, that the women have a lower proportion of water contained in their body, so when they drink the same amount of alcohol, it becomes more concentrated

and this is the reason we feel like it reaches a higher blood alcohol level on the same amount of alcohol.

Q Do I understand that actually in your study the women were taking less alcohol in an absolute amount?

A No, in our study, it just so happened that the males and females were equivalently — in other words, there were no difference in the total men body weight of the two groups.

Q Now, you say that males, or that the females showed some variation in the effect of intoxication regarding the period of the menstrual cycle in which they took the alcohol.

Was there any, was there any period of the menstrual cycle where the female showed equal or less intoxication than the male?

A According to our findings during the first part of the menstrual cycle, approximately Day 1 to Day 4, the peak blood alcohol levels were very similar to the males. They were not statistically different and as progressed through the menstrual cycle, the difference became [106] different, for instance, Day 14, they're a little higher than the males. By the time you get to Day 28, they're statiscially significantly higher than the males. That is the main point where they're higher than males. At no time did we find the reverse where the males were higher than the females.

Q So, the females were somewhat inferior at all points of the month?

A I would not say inferior. I would say they reached a higher blood alcohol level.

Q All right. Did I understand that your finding of a higher blood alcohol, translated into ability to perform certain mental tasks, or lack of ability to perform certain tests?

A Yes, that is correct.

Q Could you explain to the Court what the psychological task or mental test was that you administered.

A This is in psychological terms, it is called a free recall memory task.

It is actually a very simple task where words are put on slides and then the slides are projected onto a screen and the slides come on one at a time at about two-second intervals and each time the slide comes on the screen, the person says a word out loud and in this case the person saw 12 words. As soon as the 12th word went over [107] the screen, at that point the subject was asked to write down as many of these 12 words as he or she could remember. This is called an Immediate Memory Task.

Each subject saw six of these lists of 12 words. By the way, these are common, everyday nouns and they're very simple. Most people all know them. So, that the individual wrote down the words after the, each list, and then after six lists he wrote down all the 72 words he had just seen. This is called our Delayed Memory Task.

As I mentioned, this is done before alcohol and also after alcohol. And the difference between the males and the females showed up on the Delayed Memory Task. Not on the Immediate Memory Task.

Q What was the difference?

What difference did you note?

A The females could remember fewer words than the males could on the Delayed Memory Task.

Q Now, Doctor, could you tell the Court about what age group you were experimenting with?

A We normally test college people, and usually their age ranges from approximately 21 to 30 years of age. At the present time, we are not testing anyone

younger than 21 because the problem we might possibly get into with the lawfulness of administering alcohol to underage subjects.

[108] Q Doctor, I note you have a document in front of you. Can you identify what that is?

A This is a research, or the, it is entitled "Sex Difference in Response to Alcohol".

Q And what is that? That the reports of the study you have just described?

A Yes, it is.

Q All right. Does that report contain the statistical tabulations and the specific data of the report?

A Yes, it does.

Q All right. May it please the Court, at this time, I would move to offer into evidence copies of the report which the witness has identified as being a report of his study, which he has just described.

JUDGE HOLLOWAY: Well, you will need to offer the exhibit itself and then you can furnish copies to us.

MR. GILBERT: Okay, fine.

JUDGE HOLLOWAY: I mean, you can mark any one of them you wish.

BY MR. GILBERT:

Q Doctor, I will hand you what the Clerk will mark as Plaintiffs' Exhibit No. 1 and two copies thereof.

THE CLERK: Judge Holloway, he had introduced another one a moment ago, a number was not given to it, but [109] do you want me to give it this one?

JUDGE HOLLOWAY: 2, I believe.

Very well, you may make your offer.

BY MR. GILBERT:

Q Doctor, I will hand you what has been marked as Plaintiffs' Exhibit No. 2 and ask you if you can identify that that document is.

A This is a research report that I wrote entitled

"Sex Differences in Response to Alcohol."

Q And this the report we have been discussing?

A Yes, it is.

Q All right. Did you, yourself, write the report, Doctor?

A Yes, I did.

Q All right. I would now offer Plaintiffs' Exhibit No. 2 into evidence, Your Honor.

JUDGE HOLLOWAY: Any objections?

MR. MOORE: Yes, Your Honor. The Defendants would object to the exhibit offer on the grounds it is incompetent and immaterial.

The Court will notice that we had absolutely no objection to the testimony offered by the defendant during the direct examination. However, at the end of the direct examination the defendant specifically stated that his sample was people 21 years of age and older.

[110] JUDGE EUBANKS: You use the word "defendant" when you mean witness?

MR. MOORE: I am sorry, I beg your pardon, yes. The witness testified that the sample, the people who he tested were 21 years of age and older.

Furthermore, the size of his sample was 30 people.

Furthermore, I have not seen a copy of this report before this morning and we would object to this being admissed into evidence on these three grounds.

JUDGE HOLLOWAY: The objection will be overruled. The Court will allow counsel a few minutes between direct examination and cross examination in order to examine the report, because it is subject to a hearsay type objection which is about what you're making, and you can have an opportunity to examine the report and then question the witness about it.

MR. MOORE: Thank you.

BY MR. GILBERT:

Q Doctor, based upon your conclusions, can you think of any biological, or, in your special discipline, biological-psychological reason, why, among young adults, one sex should be allowed access to 3.2 percent beer at an earlier age than the other sex?

Let me rephrase that.

[111] In particular, can you think of any bio-psychological reasons why any female should be allowed access to 3.2 percent beer at an age in advance of young adults of the other sex?

A About my only response would be that I don't know of any research that would support this.

I would like to comment also, that when we talk about 3.2 percent beer, we are talking about alcohol. Just like when we are talking about 90 proof vodka, we are still talking about alcohol. So, from our perspective in research, alcohol is alcohol and these are both ethyl alcohols and so from my perspective there is no reason at all that one would grant the right to drink one type of beverage at one age and not the other beverage.

Q All right. I have no further direct examination, Your Honor.

MR. MOORE: Your Honor, let me introduce James Barnett, also from our office. He has been studying this report and in anticipation of the Court's ruling, admitting it with the Court's permission, may he cross examine the witness?

JUDGE HOLLOWAY: Yes, that will be permitted.

MR. MOORE: Thank you.

Mr. BARNETT: Thank you, Your Honor.

JUDGE HOLLOWAY: Counsel, I am sorry, I didn't [112] get your name, please.

MR. BARNETT: Barnett, Your Honor, James Barnett.

JUDGE HOLLOWAY: Thank you.

CROSS EXAMINATION

BY MR. BARNETT:

Q Mr. Jones, if I understand your testimony correctly, these tests that you gave to your study group were in the nature of mental exams. Is that right?

A We refer to them as memory tests.

Q Yes. Did they involve physical actions on the part of the people involved?

A Physical in the sense that an individual had to, one, verbalize the stimulus that he saw or she saw on the screen and, two, he had to write it down using a pencil.

Q Well, as far as writing it down, did you find with the amount of alcohol you gave them, did you find any one of the tests, people unable to write the words out?

A Everyone was able to write properly.

Q So, they weren't physically impaired?

A The writing was not the type that you would see — the writing was not of the quality that one would see before someone drinks alcohol, but at the same time it was legible and could be properly scored.

Q These tests, they were not directed specifically [113] towards any type of liquor violation law, like there wasn't anything like driving a car involved in these tests?

A No, sir.

Q What, was there anything involved that you know of that is a part of any other liquor violation under the laws of the State of Oklahoma?

A Not that I know of.

Q Okay. I believe you also testified in your test, on the first page, it indicates that for immediate recall, the sexes came about the same on the tests. Is that correct?

A That is correct.

Q That means that they could immediately react to whatever came before their eyes?

A They could immediately write it down.

Q Yes. Would you be able to relate immediately, immediate recall as being any more relevant to, say, drunk driving than past recall after a period of time? In driving situations, would you have need of immediate recall as opposed to the other type?

A It would depend on the situation, for instance, when one is driving a certain route and he uses responses that he normally uses every day, then I would compare that to immediate recall. But, if something unusual came up out [114] of the, his peripheral vision, for instance, then the delayed action might be more semblance to the delayed recall.

Q So, in other words, in an accident type situation, the immediate recall would be more important?

A I don't know. There is no way of telling unless you know what the accident is.

Q Okay. On your sample, as I understand it, these are all college students?

A Yes, sir.

Q And they were all over 21?

A Yes, they were.

Q And they were 30 of these, 20 females and 10 males?

A That is correct.

Q From a scientific standpoint, would you say this is an accurate cross sample of young people in our society?

A I would merely say that it is a representative sample of college students here in Oklahoma City.

Q Who are above 21 years of age?

A Who were above 21 years of age.

Q And it would not reflect, as far as being, having any scientific validity on the age group of 18 to 21?

A Would you repeat that?

Q The scientific validity of this test, if any, would [115] not relate to the age group of 18 to 21?

A Unless there is some biological difference, which I don't know about, there is no reason why this should not apply to other age groups in order to determine that you would actually have to test these age groups.

Q So, it is possible that this test would come out differently for a different age group?

A Certainly.

Q These statistics that you, in your test, the males and females drank approximately the same amount of liquor. Do you have any — was there anything done in your test to indicate that outise of the test arena that males and females do drink the same amount of liquor?

A The ones that we tested?

Q No, just outside the test group; do males and females of the same age drink the same amount of liquor? Do you have any way of knowing that from your test?

A Well, what we do, when we test an individual we ask them about their drinking history and we equate subjects, so that we are dealing with people who are what we call light to moderate social drinkers. So, that in our study we don't use heavy drinkers at all.

Now, whether other people drink more outside the situation, I am sure they do, but we try not to test heavy drinkers.

[116] Q But, your test itself does not indicate whether or not the males or females, as a whole and the population, whether or not males and females drink approximately the same amount or less or more than any other sex.

A We are not asking that question, no.

Q So, you have no knowledge as to which sex drinks more?

A I have no experimental data on it.

Q All right. So, in the, to carry that a little further, you have no information as to whether or not one sex commits more liquor violations than another?

A I have no data on that.

Q Your test didn't go into that?

A No, it didn't.

Q No further questions, Your Honor.

JUDGE HOLLOWAY: I would like to ask you a question.

Q Doctor, did you yourself do the screening to select the tested students?

You mentioned you didn't use heavy drinkers. Did you do the interviewing or the screening to determine the 30 who would be in the group?

A I would have to say that, no, because we employed research assistants in our laboratory to usually schedule and [117] screen. Do the testing of the subjects.

Q All right. Are you aware of the results of their screening as opposed to one sex as to another? What I am getting at is, was it your result of your screening that there is any difference or not between those that are heavy users of alcohol, men, as opposed to women?

A Well, first, from what we can determine from merely questioning the people, that the men and women drink about the same amount of alcohol.

Now, I don't think this is true in the general population, where in general you might expect to find males consuming a greater quantity of alcohol than females.

However, that is one of the reasons we use college

people, because of generally, especially graduate students and medical students, which we also used, you don't find a heavy drinking problem, and so, in our studies we try to equate the drinking history to the different people that we use.

Q Do you have some redirect?

MR. GILBERT: No further interrogation, Your Honor.

JUDGE HOLLOWAY: Is there anything further from this witness?

JUDGE DAUGHERTY: I have a question or two.

[118] Q As I understand it now, from this test you took 20 females and 10 males, of same body weight?

A Correct, approximately the same body weight.

Q And you gave them the same amount of alcohol?

A Correct.

Q And then you tested their results?

A Yes, sir.

Q And do I understand that your result is that men got drunker than the women?

A Pardon?

Q That the women got drunker than the men?

A The experimental data indicate that the women achieved a higher blood alcohol level.

Now that has to be interpreted by what do you mean by drunkenness, for our purposes, we interpreted a higher blood alcohol level to be more intoxicated.

Q I thought that is what I said.

A Well, what I am referring to is, some people become very drunk at low blood alcohol levels and drunkenness if more of a matter of behavior. We are talking about just blood alcohol.

Q Well, what was the result of your test then? You say the females had a higher blood alcohol content?

A Yes, sir.

Q What does that mean?

[119] A That means that they drink the same amount as men to achieve a higher blood alcohol level. Now in general —

Q What does that mean in general?

A That means that there is a linear correlation between blood alcohol level and performance deficit, so the higher the person, the higher the blood alcohol level as for the individual, the greater impairment would demonstrate.

Q Well, then, women get drunker than men.

A Right.

Q Drinking the same amount of booze. Is that it?

A Okay.

Q Now, these people were 21 and above?

A Yes, sir.

Q Did you make any tests as to previous experience of these people to the use of alcohol?

A We have a somewhat detailed drinking history questionnaire that we had administered. This is somewhat difficult to get adequate information on, but merely we asked them when they did start drinking — by the way, most of these people started drinking, whether male or female, around 18. We asked when they started drinking regularly. We don't ask what they drink, because alcohol is alcohol and we are not interested in what type of beverage they drink.

[120] We ask them how much they have been drinking in the last week, last month and last year, to get an estimate of the general quantity. And we also usually ask the type of beverage they drink just for our own information.

Q Is it true, particularly when you're young, that the more experience you have had with drinking the better you can hold your booze?

A It is true of whatever age you are. The more drinking experience you have had, usually, you build up a tolerance for the alcohol. You adapt to it and you can do things better, the more you can drink.

Q Well, if you're in the age bracket and you have been drinking more than your freind, chances are that you can handle it better and not get as drunk as your friend. Is that right?

A That is possible.

Q Does this show up in blood alcohol counts?

A In general or in our studies?

Q No, let's say that you and I are the same weight and same age and I have been drinking quit a bit for about five years and you haven't touched a drop. We get the same amount of whisky. Now, is our blood alcohol content going to be the same?

A That is a very interesting question.

[121] Q What did these tests show?

A The research that I have made would indicate that you have a level, the same blood alcohol level in the same quantity of alcohol regardless of your drinking history. For instance, alcoholics reach the same peak blood alcohol level on a given amount of alcohol as a nonalcoholic would.

Q Well, then, the answer to my hypothetical to you would be that our blood alcohol would be the same?

A Correct.

Q Now, would I be better able than you to drive a car, to remember what I see, to do things physically?

A Certain things you would be able to. Things that you're used to doing.

Q I am using the driving the car and writing things down. I am using —

A Your memory would probably be impaired —

Q Would it be impaired more than yours?

A At the same alcohol blood level.

Q My drinking for five years and you not drinking any. Same size, but drinking the same amount of whisky?

A I haven't done studies in abstainers, so I don't know if you haven't had any alcohol —

Q Well, my hypothetical to you was an abstainer, but [122] is there any truth in the saying that we have all heard, that some people can handle their whisky a little better than others?

A Definitely, that is what tolerance is all about.

Q And is it true that one who has been drinking a little bit can handle it better than the one who, for the first time, starts drinking?

A I would say so, in general.

Q That leads to my question. What did you do in the way of comparing[17] previous drinking experience of women as compared to the previous drinking experience with the men?

A Well, I think I answered that. I will say it again. We had a detailed —

Q I am talking about what you did.

A What did I do?

Q Yes. Is that comparable? The man and the woman, have they been drinking the same amount of whisky for the same amount of years, so that they can either get the experience for the tolerance or whatever you want to call it, or drinking, or did you take the man that has been drinking for five years, put him against a woman who hasn't been drinking anything?

A Okay. As I mentioned, we tried to match our [123] subjects on how much they had been drinking. When they began to drink, to the best of our ability, and from quizzing them, they all were what we would call light to moderate social drinkers.

[17] "Impairing" appears in the original.

Now, I understand your question and I think it is very valid. If we did not measure properly, we would expect to see the performance deficit that we found, but there is no indication at all in the literature that the blood alcohol levels would be different if they had been drinking a different number of years, to my knowledge.

Q Well, then you're saying that if I have drunk a lot for five years and you haven't drunk any for five years, we are the same size people, both drink the same amount of whisky, that our blood alcohol count would be the same. Blood alcohol content would be the same?

A I really couldn't say that because there are some other factors like how long does it take you to drink it.

Q That is right. And about how much your stomach takes in.

A You get through eating before you drink or —

Q Something of that kind?

A We also found that introverts and extroverts apparently are most affected by alcohol. So, personality [124] makes a difference.

Q Well, is it fair to assume that in connection with your test that women just don't drink as much as men and you pit them together and give them this identical test, you're going to expect women to get a little drunker than men. Not remember as well.

A Well, one might make that assumption, except that one important part is, that there was no difference on the Immediate Memory Test between males and females. They both performed the same before alcohol. After they drank the alcohol, and on Immediate Memory, males and females performed very well. It was a Delayed Memory Test that the males and females differed.

To me, this is the case that there is a certain type

of memory that is more affected by alcohol in women than in men. That had differential, I think your argument would be quite valid.

Q Well, in the sum and substance of this experience that you have had here, was it women just get drunker than men, to put it crudely?

A Okay.

Q Is that right?

A Yes, sir.

Q Then I take it that we ought to turn this ordinance around, or this statute around and let the men get [125] it before the women?

A If it is based on the data, I would say that is true.

Q Well, would there be some basis then to do it this way, men ahead of the women, because women get drunker and therefore shouldn't have it as soon as men?

A If you were going to make a discrimination, that is the direction the discrimination should be made.

Q Classification, let's call it classification in the interest of public. People are going to get drunker quicker, it ought to be a little harder for them to get it?

A That depends on what they're going to do, if they're going to sit in the laboratory it is not going to hurt them.

Q What I am talking about is about driving an automobile and getting out on the streets.

A Correct.

I think one important thing that hasn't been brought out too much, and beginning, you must remember these are preliminary findings and we have a small number of subjects which has been pointed out. But, it appears as though the big difference comes within the premenstrual time for the women when premenstrual symp-

toms are quite frequently reported by both the female or husband or another [126] male is when the woman becomes emotional, sometimes, or depressed, and by putting alcohol on top of this, I think in that case at that particular time a woman would be more dangerous out driving than a man would be, who doesn't have this monthly hormone variation.

Q Well, then, sex differences in alcohol there is a difference?

A From our point of study, yes, preliminary study, yes.

Q But, I suppose that the difference that you find would indicate that contrary to what the State Legislature has done, women should not get alcohol as early as men since there is a difference in the result of consumption?

A I don't know what they base their opinion on. Apparently it wasn't on data, because as far as I know, this is the only study that has given males and females alcohol and also looked at the effects at different times in the types of menstrual cycle.

Q The interesting thing about your study is that there is a difference between the sexes about alcohol then?

A That is correct. Now, let me mention one other thing. We are working at small blood alcohol levels, around 06 to 08 percent. We are working below what is [127] legally considered to be intoxicated in the State of Oklahoma.

Q Well, do you have any reason to believe that it would change if you drank more?

A I don't think so.

Q Well, do you have any reason, have you made any tests to where this picture is going to change the more you drink?

A There is such a thing called "dose response effects".

Q Well, if you wanted to answer my question, you could just put more whisky to this —

A That is right.

Q Have you done this?

A We have with the males. But with the females, as I mentioned earlier, they get sick when you ask them to drink any more, which indicates they cannot tolerate as much alcohol as the males.

Now, to answer your question, if we took women —

Q Well, is there some biological difference then about the woman's ability to consume alcohol as against the man's ability?

A I don't know.

Q I understood the earlier witness to say there [128] wasn't. Now, you're saying there is, is that right?

A I am not saying there is a biological difference.

Q What is the difference? The woman gets sick, the man doesn't; and the woman get drunker than the man. Why isn't there a biological cause of this?

A Okay, remember what Dr. Ruffin mentioned about the proportion of water in the male and female? This is very, very important.

Q Well, there is a biological difference.

A There is a biological difference in the proportion of water in the way the alcohol is distributed to the system, that is correct, from what we know.

Q Thank you.

JUDGE HOLLOWAY: Anything further?

MR. GILBERT: None from the Plaintiffs, Your Honor.

JUDGE HOLLOWAY: May he be excused?

MR. GILBERT: Yes, sir.

JUDGE HOLLOWAY: You may be excused.

Anything further from the Plaintiffs?

MR. GILBERT: Yes, Your Honor, just documents. Let's see, I guess this will be numbered Plaintiffs' Exhibit No. 3. I previously furnished copies, Xeroxes, of relevant statistics from the Census of the 1970 Census of [129] the State of Oklahoma, showing statewide and Oklahoma City statistics regarding male and female populations for various age groups.

JUDGE HOLLOWAY: Any objections?

MR. MOORE: No objections.

JUDGE HOLLOWAY: Plaintiffs' Exhibit No. 3 is received.

MR. GILBERT: The Plaintiffs final exhibit will be 4, I believe.

It will be similar statistics from the United States, 1970 Census for the State of Minnesota, showing similar data.

JUDGE HOLLOWAY: Any objections to Plaintiffs' Exhibit No. 4?

MR. MOORE: No, Your Honor, none.

JUDGE HOLLOWAY: Plaintiffs' Exhibit No. 4 is in evidence.

MR. GILBERT: I believe the Court could actually take judicial notice of the census statistics anyway.

JUDGE HOLOWAY: Anything further? The Plaintiffs?

MR. GILBERT: No, Your Honor. The Plaintiff would rest.

JUDGE HOLLOWAY: Any rebuttal?

MR. MOORE: No, Your Honor.

JUDGE HOLLOWAY: Then the case is finally [130] submitted on evidence, I take it, from both sides?

MR. MOORE: Yes, sir.

JUDGE HOLLOWAY: Gentlemen, we have considered the question about argument. We have a difficulty in that we have another trial. This panel does, at 1:30, and we also have a situation that you have offered a great deal of evidence this morning which none of us have had an opportunity to examine, so we would like to request the parties to brief the case. I don't believe there have been any briefs really on the merits. You have submitted some on the burden of proof, so we would like to request the parties to brief the case and you have the burden for the State.

What time would you like for submitting a trial brief?

MR. MOORE: Your Honor, my sole problem is a physical one in terms of secretarial help. May I have 20 days? Is that too long?

JUDGE HOLLOWAY: Yes; and how much time would you like to have, please to reply?

MR. GILBERT: I think the same time, Your Honor. My secretary has just quit.

JUDGE HOLLOWAY: Well, we will allow you some time to receive the State's brief. You mean 20 days after that?

[131] MR. GILBERT: Well, I can probably squeeze it up closer than that, I think I can get it out in 15.

JUDGE HOLLOWAY: Fifteen days.

Very well, the Defendants will then submit their brief, formalizing the evidence and the authorities on the merits within 20 days. The Defendants will, the Plaintiffs will, thereafter, respond within 15 days.

MR. GILBERT: Very well.

JUDGE HOLLOWAY: Gentlemen, if we feel that oral arguments would be necessary or helpful to us, after we have received and studied your briefs and the evidence, we will adivse you. But, otherwise, we will consider whether we should take the case on the briefs. We will notify you then.

Court will be in recess until 1:30.
(Thereupon, these proceedings were concluded.)

[132] **CERTIFICATE**

I, R. Lee Cook, do hereby certify that I am a duly appointed, qualified and acting official court reporter in and for the United States District Court for the Western District of Oklahoma.

I further certify that the foregoing proceedings were taken by me in my official capacity in stenotype.

I further certify that my said machine shorthand notes were later transcribed and reduced to typewriting under my supervision and that the foregoing is a true and correct typewritten transcription of the proceedings had as aforesaid.

R. Lee Cook, Official Court Reporter
U. S. District Court
Western District of Oklahoma

ITEM 14 — PLAINTIFFS' ATTEMPTED EXHIBIT 1B (EXTRACT)

ACTIONS OF ALCOHOL

VOLUME I

BIOCHEMICAL, PHYSIOLOGICAL AND PSYCHOLOGICAL ASPECTS

VOLUME II

CHRONIC AND CLINICAL ASPECTS

by

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and

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EBBE CURTIS HOFF *Richmond, Va., U.S.A.)*

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[180] *(3) Sexual and maternal functions*

A meager amount of research has been reported on alcohol effects on sexual reactions in spite of the importance of the topic. The results reveal a tendency to selective parasympathetic inhibition in the male. Thus prolongation of erection time was seen in dogs after 0.4 — 1.6 g alcohol per kg (Gantt, 1940, 1952, 1957). Sympathetic components in the sexual reflexes regulating ejaculation were also depressed by moderate and large doses of alcohol (0.8, 1.6 or 2.4 g/kg) but remained unaffected after a small dose (0.4 g/kg) which was sufficient to slow erection. In some cases, alcohol improved the sexual reflexes of psychologically disturbed dogs (Gantt, 1957). In rats, deprived of water so that they consumed voluntarily an amount of 2.3 — 2.8 g alcohol/kg body weight, this dose produced depression of all measures of copulatory behavior (Dewsbury, 1967). Latency to first mount, intromission and ejaculation were prolonged, pauses between intromissions were longer, and latency prolonged to resumption of copulatory behavior after ejaculation. On the other hand, fewer intromissions were required to attain ejaculation. According to Hart (1968), alcohol in a dose of 1.6 g/kg depressed the ejaculatory reflex in dogs with midthoracic spinal transection, and in a dose of 3.2 g/kg abolished the reflex in 6 out of 8 dogs. In intact dogs, the same doses of alcohol did not abolish interest in receptive females, but

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of 6 dogs none was capable of completing copulation after the larger dose of alcohol. Very similar observations have been made by Hart (1969) in rats.

Rasmussen (1953) observed the copulatory behavior of male rats after doses of alcohol which resulted in blood alcohol levels from about 0.03 — 0.18%. With increasing blood alcohol concentration, there was a progressive decrease in the numbers of attempted copulations, completed copulations, and ejaculations, and the ejaculations were delayed.

According to Teitelbaum and Gantt (1958), the sperm count of dogs was decreased by large doses of alcohol, but the authors considered this observation to be preliminary and in need of further confirmation. Doeptmer and Hinckers (1965) administered alcohol in doses of 0.4 or 0.8 g/kg to young, [181] healthy human males, determined the alcohol concentration in blood and seminal fluid, and recorded number and condition of the spermatozoa. The sperm number was not affected, but slowing of sperm motility and structural changes in the sperm cells were seen.

The estrous cycles of female mice, determined by vaginal smears, were disturbed when the drinking fluid consisted of a 10% alcohol solution and were almost abolished when a 20% solution was given (Cranston, 1958). Wine has been reported to cause irregulatiries in the estrous cycle of female rats, but no effect of a pure alcohol solution was found although the experiment extended over several months (Aron *et al.*, 1965).

The involvement of the nervous system in endocrine responses to ethanol was already seen in the effects of alcohol on secretion of antidiuretic hormone (p. 166) which shows a depression of the posterior hypophyseal lobe. Similarly, release of oxytocin is inhibited. Oxytocin is needed for milk ejection from the mammary glands,

and also induces contractions of the uterus. Chaudhury (1960, acc. to Chaudhury and Matthews, 1966) found that in female rats a dose of 2.95 — 3.95 g alcohol/kg inhibited the release of oxytocin in response to the suckling stimulus as assessed by a block in milk ejection. In rabbits, Fuchs and Wagner (1963 a, b) have demonstrated that the strength of suckling stimulus required to overcome the inhibiting action of ethanol on oxytocin release is a function of ethanol dosage. The same authors also demonstrated that previous administration of ethanol inhibits the release of oxytocin which can ordinarily be induced by intravenous injection of acetylcholine. On the other hand, nicotine-induced release of oxytocin is not blocked by ethanol (Bisset and Walker, 1957), which suggests an unrelated point of action of the two drugs. In several species, including the rabbits, coitus causes release of oxytocin. It has been suggested that the oxytocin by stimulation of uterus motility aids transport of seminal fluid up the reproductive tract. Chaudhury and Matthews (1966) have demonstrated that in female rabbits in estrus, administration of approximately 3.9 g of ethanol/kg body weight 30 min before mating prevents fertilization. Ethanol did not inhibit ovulation, but the mechanism of action remains obscure because also after injection of oxytocin, ethanol prevented fertilization.

Oxytocin, through its stimulating effect on the uterine myometrium, is an important factor in the regulation of parturition. Fuchs (1966) showed in rabbits that ethanol inhibits secretion of oxytocin during parturition and that it is capable of delaying onset of labor and inhibiting uterine contrac- [182] tions. Clinical trials suggested therapeutic value of ethanol in control of premature labor in humans (Fuchs *et al.*, 1967); Luukkainnen *et al.*, 1967). In the latter study, the quite moderate dosage of 30 ml cognac three times a day

apparently was beneficial. It was not clear whether the effect of ethanol was due to inhibition of oxytocin release, to a direct effect on the uterine myometrium, or to a combination of these effects. In continued studies, Wagner and Fuchs (1968) showed that ethanol inhibits release of oxytocin in response to suckling in women, uterine contractions being reduced to less than half by a blood concentration of 0.07%. According to observations by Fuchs (1966), Wagner and Fuchs (1968) and Fuchs *et al.* (1968), the responsiveness of the uterus to injected oxytocin is not altered by ethanol. Fuchs *et al.* (1968) also cite the unpublished observation by Landesman *et al.* that ethanol in concentrations up to 0.8% does not affect the contractility of human uterine strips *in vitro*. In humans, ethanol thus seems to prevent uterine contractions through inhibition of the release of oxytocin from the posterior part of the hypophysis. In mice, inhibition of contractility of uteri isolated in late pregnancy begins at a concentration of 0.08% w/v, and blockage is complete with 0.32% w/v. In the rat, the corresponding range is 0.8 — 2.4% w/v (Hüter and Schmitt, 1968). A perhaps overenthusiastic reaction to the first clinical reports has led to the critical remark (Anonymous, 1968) that many of the patients of Fuchs *et at.* (1967) might have been in false rather than in premature labor. It was further pointed out that additional studies are required of possible adverse effects both in the mother and in the infant. The cautionary remark is still valid, but the initial results have been sufficiently promising to indicate further study of this therapeutic use of ethanol.

An oral dose of 2.4 g alcohol per kg elicited maternal behavior in roosters toward young chicks (Kovach, 1967). This might indicate an increase in this specific feminine response tendency or might be due to suppression of the aggressive behavior characteristic of normal

roosters toward the small chicks.

° ° °

[430] C. Genetic, sex, and individual differences

° ° °

[438] *(2) Species and sex differences*

In contrast to the substantial number of studies comparing alcohol preference in different strains of rats and mice, there has been little research on other genetic determinants of alcohol consumption. Genetically determined differences are found among different species, and within the same species and strain between males and females. Comparisons between species and sexes involve a wide variety of different characteristics, no one of which can be identified with certainty as the determinant of differences in alcohol consumption. Nevertheless, useful information may be obtained by comparing alcohol consumption in different species and in the two sexes.

The preceding review of strain differences in rats and mice emphasizes differences in alcohol consumption within each species rather than differences between these species. Mardones (1960), in a review of studies on mice and rats, showed that mice generally consumed more alcohol in relation to body weight. This difference may be attributed to the higher rate of ethanol metabolism in the mouse (Chapter 2, Table 7). However, greater variability has been seen among strains of mice than rats. Figs. 1 — 3 of the present chapter indicate that alcohol concentrations of 5% or even higher are not avoided by rats, and many of the animals drink more alcohol than water at these concentrations. However, one strain of mouse (DBA/2) avoids alcohol at a concentration as low as 0.05% (Thomas, 1969).

Several experimenters have reported high alcohol

preference in hamsters. Emerson *et al.* (1952) found very high voluntary consumption of 10% alcohol by hamsters and deer mice, whereas little alcohol was consumed by cotton mice and usually by albino rats of Sprague-Dawley straing. Aschkenasy-Lelu (1960b), with a choice between water and a 5% alcohol solution, found the highest daily alcohol consumption by hamsters (5.2 g/kg); the consumption was much lower in mice (2.4 g/kg) and still lower in rats (1.4 g/kg). Arvola and Forsander (1961), with a choice between a 10% alcohol solution and water in six species, found that the golden hamster was the only one which drank larger amounts of the alcohol solution than water. The other species, in descending order of alcohol preference, were the rabbit, hedgehog, albino rat, albino mouse, and guinea pig. Consumption of several alcohol concentrations by the hamster, studied by Arvola and Forsander (1963), was summarized in Fig. 8-5. Estimating the average body weight at 100 grams, the alcohol intake by hamsters, with a choice between a 40% solution and water, averaged more than 8 g/kg/day. The high consumption of alcohol [439] by this species might be due to the fact that hamsters are desert animals, accustomed to bitter tasting substances, so that their aversion of the strong taste of alcohol might be minimal.

There may be particular value in the study of alcohol consumption by species which more closely resemble humans in size and in cortical development. Nevertheless, very few experimenters have tested alcohol consumption in such species. Baïsset and Montastruc (1962) reported that dogs consumed only about 0.4 g/kg/day in a choice between a 20% alcohol solution and water. After 6 months of administration of 6.4 g/kg/day, their voluntary intake increased to about 4 g/kg/day. Large amounts of daily alcohol consumption by primates have been re-

ported in the few studies on these animals most closely related to humans. During prolonged choice between a 15% alcohol solution and water, Mello and Mendelson (1966) found wide variation in alcohol consumption by four rhesus macaque monkeys, up to a maximum of 6.1 g/kg/day. Koz and Mendelson (1967) found that during prolonged periods of free choice between a 10% alcohol solution and water, average daily alcohol consumption by two rhesus speciosa monkeys ranged from 4 to 8 g. The authors did not report the body weights of the animals. Clark and Polish (1960) reported that during choice between a 20% alcohol solution and water, average alcohol intake by two rhesus monkeys ranged from approximately 0.7 to 2.3 g/kg/day. Anderson and Smith (1963) reported on choice tests in Macaca nemestrina (Pigtail) monkeys. The data indicated substantial amounts of alcohol consumption although some of the tests were preceded by fluid deprivation, which would be expected to enhance preference for water over alcohol. Consumption of intoxicating amounts of alcohol was reported by Fitz-Gerald *et al.* (1968), who offered to chimpanzees and orangutans a fruit juice (grape, orange, or grapefruit), with or without the addition of a 10% concentration of ethanol or vodka. The alcohol greatly decreased the amount of juice consumed, but in the brief drinking period, averaging 10 min, alcohol consumption often exceeded 1 g/kg. Intoxication was observed in several of the chimpanzees.

A consistent finding, in all species of vertebrates tested in the laboratory, is the avoidance of intoxicating doses of alcohol. However, an attractive concentration of alcohol induces drinking to intoxication in flies, according to data on blowflies reported by Dethier (1961) and on other species of flies cited in that article. This one study on blowflies, also cited earlier in the present

chapter (p. 427), is an example of the wide variety of available species, most of which have never been tested for alcohol consumption.

[440] Reports on sex differences in alcohol preference have been rather conflicting. The valid comparison is for alcohol intake in relation to body weight, so that the experimenter should report both the amount of alcohol consumption and the average weights of the animals. Since males are usually heavier, and also may consume less fluid due to their lower surface/volume ratio, equal alcohol intake in g/kg/day may require a much higher percentage choice of alcohol by males in relation to total fluid intake. These factors may partly account for the higher percentage alcohol choice in male rats reported by Clay (1964) and the larger amount of alcohol consumption in male hamsters reported by Arvola and Forsander (1963). Fitz-Gerald *et al.* (1968), in presentations of a single beverage containing 10% alcohol, found that male chimpanzees drank almost twice as much alcohol as females whereas male and female orangutans drank the same amount, in comparisons between males and females with approximately equalized body weights. In choice tests with rats, Schadewald *et al.* (1953) found that males consumed more alcohol in g/kg/day but Aschkenasy-Lelu (1960c), Eriksson and Malmström (1967), Brewster (1969), and Eriksson (1969a) found that females consumed more alcohol in g/kg/day. Eriksson and Malmström (1967) also found faster alcohol elimination in female rats, and Eriksson (1969a) reported that the sex difference in alcohol comsumption was greater in the heavy-drinking than in the light-drinking strain of rats, in accordance with the expectation that the faster metabolism in females would be a more influential determinant when alcohol intake was at a high level. In mice, Mirone (1952) reported higher alcohol consump-

tion by males but Eriksson and Pikkarainen (1968) found higher alcohol consumption by females in g/kg/day, and this sex difference was greater in the alcohol-preferring strain (C57BL) than in the CBA strain, again giving evidence that the faster metabolism in females is more influential when alcohol intake is at a high level. A tendency for higher alcohol preference in females than males of the C57BL strain, but not of low-preference strains, was found under limited food rations (Rodgers *et al.*, 1963) but not in other choice tests (McClearn and Rodgers, 1961). This finding has been confirmed by Eriksson (1970).

Most experimenters on rats and mice have found little sex difference in alcohol consumption (*e.g.* Mardones, 1960; Rodgers and McClearn, 1962a). Differences between males and females may be influenced by a variety of conditions which generally have not been tested systematically in both sexes. The alcohol intake of females is affected by the stage of the reproduction cycle. Studies of this variable are reviewed in the present chapter (p. 445).

Fig. 8-6. Lactate/pyruvate ratio of liver 90 min after alcohol injection related to preceding choice in tests with water and a 10% concentration of alcohol, in 21 male and 28 female rats. The data for males are from Forsander (1966).

ITEM 15 — PLAINTIFFS' ATTEMPTED EXHIBIT 1B (EXTRACT)

PRIVY COUNCIL

MEDICAL RESEARCH COUNCIL

MEMORANDUM

No. 38

Effect of Small Doses of Alcohol on a Skill Resembling Driving

G. C. DREW, W. P. COLQUHOUN and HAZEL A. LONG

London

Her Majesty's Stationery Office

Universal Decimal Classification
615.711.1

[iii] PREFACE

The work described in this Memorandum was carried out by the authors on behalf of the Committee on Road Users, appointed jointly by the Medical Research Council and the Road Research Board of the Department of Scientific and Industrial Research. A summary of the main findings has already been published in the British Medical Journal; in addition to the information given there the present Memorandum includes full details of the results and of the experimental method used, together with a survey of earlier work on the physiological effects of alcohol and its effects on behaviour.

The term intoxication, in relation to the drinking of alcohol, is generally used to denote a change in behaviour associated with certain clinical signs such as slurred speech and staggering gait. Some deterioration in efficiency and control, however, almost certainly occurs before these signs appear, and this may well be significant in situations calling for continuous attention and for speed and accuracy of action.

Laboratory studies and also investigations of actual road accidents have suggested that, when the level of alcohol in the blood is relatively high, its measurement may provide a more reliable basis than clinical observation for assessing the impairment of ability to perform a skilled task such as driving a motor vehicle. There is less evidence on the value of blood alcohol measurements at lower levels when clinical signs will usually be absent.

The present study was designed to investigate the effects of small amounts of alcohol which would produce concentrations in the blood below those regarded in a number of countries as evidence of intoxication and within the range of those reached in ordinary social drinking. The 40 men and women studied undertook in the laboratory a series of tests on an experimental task which in a simplified form resembled driving a vehicle on the road.

The main findings regarding the relationship be-

tween performance of the task and the observed blood alcohol levels are presented in terms of the average effects on a group of individuals. They show that, in general, performance begins to deteriorate with very low blood alcohol levels and that deterioration progresses as the blood alcohol level rises. There was, however, a wide variation in the effect of alcohol on different individuals, and about a quarter of those tested showed reduced error after alcohol, although most of these did so only by a compensatory reduction of speed. The authors have made some attempt to assess the importance of various personal factors which may account for these individual differences.

Recognition of the existence of individual variation in response to alcohol should not be allowed to obscure the principal result of the study described in this Memorandum. Evidence has been obtained that a high proportion of individuals show a measurable impairment of performance after drinking amounts of alcohol too small to produce even those clinical signs of intoxication apparent to trained observers.

Medical Research Council,
38 Old Queen Street,
London, S.W.1 10th November 1959

° ° °

[55] *Sex* There were no significant differences between the sexes in the effect of alcohol on any of the performance measures (Student's t: $P > .05$, in each case). However, it should be remembered that only five of the subjects were women.

° ° °

ITEM 16 — PLAINTIFFS' EXHIBIT 2 (ENTIRE)

SEX DIFFERENCES IN RESPONSE TO ALCOHOL°

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SEX DIFFERENCES AND ALCOHOL

[2] Abstract

Thirty college students were tested at two week intervals to evaluate the effects of alcohol (0.66% milliliters per kilogram) on memory at different times in the female menstrual cycle and to compare this to the performance of a group of males. Subjects were tested on a free recall verbal memory task before drinking alcohol (baseline) and then at a blood alcohol level of 0.04% on the ascending limb and also at 0.04% on the descending limb of the blood alcohol curve. Ten females were tested first on approximately day 1 and then on day 14 of the menstrual cycle while ten other females were tested first on day 14 and then on day 1. A group of ten males was also tested twice at two week intervals. Females obtained a significantly higher peak blood alcohol level than males on the equivalent dose of alcohol. Females tested during the premenstrual phase reached significantly higher peak blood alcohol levels and demonstrated significantly faster absorption rates than females

°This research was supported in part by Public Health Service grant 14702 from the National Institute of Mental Health subproject "neuropsychological concomitants of alcohol" under the direction of Oscar A. Parsons and Ben M. Jones.

tested at other phases in the menstrual cycle. Alcohol impaired both immediate and delayed recall on the memory task for all subjects with immediate memory being more impaired on the ascending than on the descending limb. However, females were more impaired by alcohol than males on delayed recall but not on immediate recall. Performance differences were not found for females tested at different phases in the menstrual cycle or between females taking and not taking birth control pills. These results indicate that females become more intoxicated than males on the equivalent dose of alcohol, especially if they drink during the premenstrual phase. It also appears that females are more impaired than males by alcohol on [3] tasks that require an inhibition or delay of response. These differences should be considered in future research and suggest that sex hormonal levels may be related to the effects of alcohol.

[4] Key Words

Alcohol	Ascending Limb
Sex Differences	Descending Limb
Menstrual Cycle	Peak Blood Alcohol Level
Immediate Memory	Absorption Rate
Delayed Memory	Elimination Rate

[5] Several studies have reported that alcohol affects test performance of males and females differentially. Reisby (1972) reported that while there was no performance difference between males and females before alcohol ingestion, that females were more impaired than males by alcohol on motor coordination tests, while males were more impaired than females on an attention task. However, there were a number of tasks that did not differentiate between males and females during alcohol intoxication. Munkelt, Lienert, Frahm & Soehring (1962), as quoted by Reisby (1972), reported a deterioration of performance in female subjects in all sensorimotor and emotional variables following alcohol ingestion. However, it was not clear if these alcohol effects were different for males and females.

Sex differences in response to alcohol may be related to several factors. First, the task employed to measure the performance of males and females may be critical. Broverman, Klaiber, Kobayashi & Vogel (1968) have suggested that females perform better than males on cognitive tasks that require an immediate response, while males perform better than females on cognitive tasks that require a delayed response. Although there is controversy concerning this theoretical dichotomy (Singer & Montgomery, 1969; Parlee, 1972), it appears important to evaluate the effects of alcohol on males and females along this dimension to determine if performance differences can be attributed to the nature of the task.

A second factor that may be related to differences in performance between males and females following acute alcohol ingestion is the cyclic fluctuation in female sex hormonal levels as compared to the relatively constant male sex [6] hormonal level. Several studies have reported that alcohol has a greater effect on animals when the sex hormonal levels are low (Kask, 1929; Klotz, 1937; Stortebecker, 1937; Goldberg & Stortebecker, 1943). This effect was demonstrated in both male and female animals following castration. The effects of alcohol were reduced to normal when the animals received a dose of the appropriate sex hormone. This suggests that the normally occurring fluctuation in the human female sex hormones may interact with the effects of alcohol. Thus, performance under the influence of alcohol may be related to the day in the menstrual cycle when the female is tested.

The third factor related to sex differences in re-

sponse to alcohol pertains to a methodological issue and is related to alcohol dose. Females are known to have less water per unit of body weight than males (Bell, Davidson & Scarborough, 1968). Since alcohol is distributed uniformly throughout the water in the body tissues, then it might be expected that the same dose of alcohol calculated on total body weight would result in a slightly higher peak blood alcohol level in females than in males. Although this theoretical sex difference is being applied in courts of law (Lovell, 1973), there is little, if any, direct empirical data supporting it. If this sex difference is consistent, then it would be important to adjust the dose accordingly or to control for a possible difference in peak blood alcohol level by testing each subject at a specific blood alcohol level.

The purpose of the present study was to compare the effects of alcohol on cognitive performance in group of males to two groups of females tested at different times during the menstrual cycle. A free recall verbal memory task previously reported to be sensitive to the effects of alcohol was employed (Jones, 1973). This particular cognitive task was chosen for three reasons. [7] First, an immediate and a delayed recall score can be obtained that could be used in evaluating the Broverman *et al.* (1968) hypothesis concerning sex differences on cognitive tasks. Second, Klaiber, Broverman, Vogel, Abraham & Cone (1971) have reported that cognitive abilities are sensitive to changes in sex hormonal levels. Thus, a cognitive task would be appropriate to test performance differences at different days in the menstrual cycle. Third, this task is relatively short and has been administered at specific blood alcohol levels on both the ascending and descending limbs of the blood alcohol curve (Jones, 1973). Thus, possible differences in peak blood alcohol levels between males and

females could be taken into consideration by testing all subjects at the same blood alcohol level regardless of the resulting peak blood alcohol level.

Methods

Subjects. Thirty paid volunteer college students served as subjects. All subjects characterized themselves as moderate social drinkers. Group I consisted of 10 male subjects, Group II consisted of 10 female subjects who were tested on approximately the first day of menstruation (Day 1), and Group III consisted of 10 females tested at the approximate time of ovulation (Day 14). Subjects in each of the three groups returned in two weeks for an identical testing session. The first day of menstruation was chosen for two reasons. First, both progesterone and estrogen, the two principle female sex hormones, fall to a low level to induce menstruation (Somerville, 1972). This period then represents a time of low sex hormonal levels. Second, the beginning of menstruation can be identified easily. This was important since the appropriate assay techniques were not readily available to analyze absolute levels of [8] estrogen and progesterone. The fourteenth day of the menstrual cycle was chosen since it is about midway between the end of menstrual flow and the beginning of the premenstrual phase, both of which may be associated with physiological and psychological discomfort. Thus, Day 14 is considered a "normal" time and is also related to ovulation in normal menstruating women. Estrogen levels are usually high right before ovulation, then fall, inducing ovulation. This point in the menstrual cycle should reflect relatively high sex hormonal levels as compared to Day 1. It also should be noted that 10 females, five in each group, were taking birth control pills. The effect of the pill is to keep the estrogen level from

falling on Day 14, thereby inhibiting ovulation. Females on the pill should have higher sex hormonal levels than those not on the pill on Day 14. Since the usual procedure is to stop taking the pill several days before the normal time of beginning of menstruation to allow the sex hormonal levels to drop, then there should be no differences between the female groups in sex hormonal levels on Day 1. The mean length of the last menstrual cycle was 29.20 and 28.40 days and the mean length of the menstrual flow was 4.80 and 6.20 days for Group II and Group III, respectively. These differences were not significant.

The female subjects also were given the Menstrual Distress Questionnaire (MDQ) as developed by Moos (1968) to evaluate symptoms associated with the menstrual cycle. The MDQ was scored according to the eight separate clusters of symptoms: pain, concentration, behavioral changes, autonomic reactions, water retention, negative affect, arousal, and control (Moos, 1968). The only significant difference between groups was that Group III has a greater negative affect than Group II. The scores were comparable to those reported by Moos (1968) [9] and indicated that, in general, females volunteering for this alcohol project had few symptoms associated with the menstrual cycle.

All subjects were instructed to obtain a regular night's sleep before the testing day and not to drink alcohol beverages or take medication the night prior to testing or on the day of testing. Subjects were asked to eat a light breakfast about 9:00 a.m. on the day of testing and not to eat, drink, or smoke from that time until reporting to the laboratory. Subjects were tested from 1:00 to 5:00 p.m. and were escorted home following the completion of testing. All subjects were asked to return two weeks later for a second identical testing. The verbal

memory task primarily was administered the second time to keep conditions constant in evaluating the blood alcohol variables since practice effects would be expected with repeated testing on this task. Five females and one male did not return for the second testing.

Alcohol Concentration. Subjects received 0.66 milliliters of 95% USP ethanol per kilogram of body weight mixed with orange drink in the ratio of four parts of orange drink to one part of ethanol. A pilot study in our laboratories showed this dose to produce a peak blood alcohol level of about 0.06% in a group of males. Subjects were asked to consume the beverage in five minutes. Drinking time was strictly controlled since it has been reported that drinking time is related to cognitive performance (Jones and Vega, 1973). The means and standard deviations for weight in kilograms and amount of absolute alcohol consumed was 69.36 $\pm$ 14.29 kg and 45.75 $\pm$ 9.46 milliliters of ethanol for the 10 males and 62.90 $\pm$ 9.52 kg and 41.54 $\pm$ 6.30 milliliters of ethanol for the 20 females. Although the females weighed slightly less than the males and drank less alcohol, these differences were not significant.

[10] *Breathalyzer Samples.* Immediately after the subjects finished drinking, they rinsed their mouth with water to clear it of residual alcohol. Breath samples were taken continuously throughout the afternoon at five-to-ten minute intervals, as well as before and after each test period (Stephenson Breathalyzer, Model 900), to obtain estimates of the blood alcohol levels. High correlations between Breathalyzer samples and direct blood analyses ($r = 0.956$) have been reported in a recent review of the validity and reliability of the Breathlyzer (Dubowski, 1970). The first two breaths were usually invalid; valid breath readings were obtained about fifteen minutes after end of drinking which agreed with

other reports (Spector, 1971; Jones & Vega, 1972; Jones, 1973).

Blood Alcohol Variables. Peak blood alcohol level and time to reach peak were determined for each subject. Three measures of absorption rate also were calculated. The initial absorption rate was determined by dividing the first valid breath reading by the time required to reach this value. This occurred about 15 minutes after the subject finished drinking. A later absorption rate was calculated by including all the valid breath readings on the ascending limb to and including the peak blood alcohol level in a regression equation. A third overall rate was determined by dividing the peak blood alcohol level by the time to reach peak. The elimination rate of alcohol was determined by including all the blood alcohol values obtained after peak in a regression equation.

Tests. Subjects were given the Shipley Institute of Living Scale and the Eysenck Personality Inventory to measure basic intellectual functioning and personality factors, respectively before drinking alcohol. Subjects were then tested on a free-recall verbal memory task as described by Glanzer (1971) and previously reported by Jones (1973). A total of 216 monosyllabic high-frequency [11] nouns were drawn from the Thorndike-Lorge (1944) AA lists and randomly assigned to 18 lists with 12 words per list. Each word was printed in black on a white background with one word per slide. The words were displayed on a screen with a 35 mm Carousel projector. Following Glanzer's study (1971), each slide was on for one second with a one second interval between slides. The screen was approximately three feet from the subject. Total time for each list was 24 seconds. The subjects read each word aloud over a tape recorder and started writing words immediately after termination

of the twelfth word. Subjects were allowed one minute free-recall period to write their responses. The next list was presented 30 seconds after responses to the previous list were obtained.

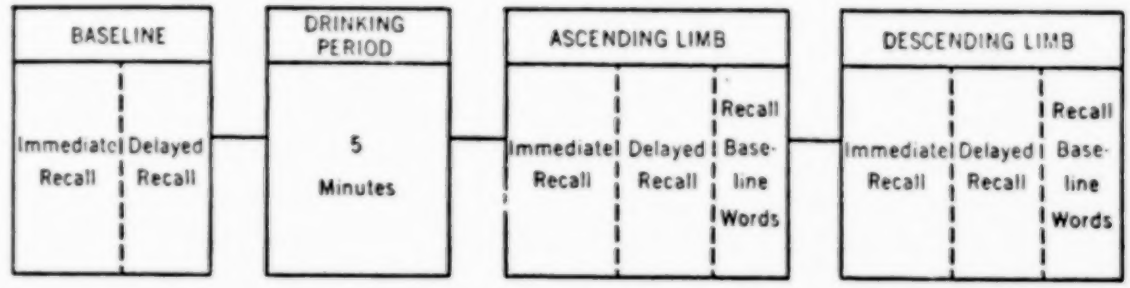

Figure 1. Block diagram of procedure.

A block diagram of the procedure is presented in Figure 1. The 18 lists were divided into three groups of six lists per group. Group 1 lists were presented to subjects before alcohol in order to obtain baseline measures for immediate and delayed recall. The immediate recall score was the total words correct for the individual recall of each of the six lists (72 possible). Thirty seconds after recall of the sixth list, subjects were given five minutes to recall words from all six lists in any order. This was the delayed recall score. A five-minute drinking period immediately followed this immediate recall task. Subjects were given Group 2 lists when they reached 0.04% on the ascending limb and Group 3 lists after they reached peak and were at 0.04% on the descending limb. Immediate and delayed recall scores were obtained at both times. Recall of baseline words was obtained on both the ascending and descending limbs after presentation of the new words. A placebo group was not included in this study since previous research with this identical task indicated no significant change over three testing sessions (Jones, 1973).

[12] *Data Analyses.* The data were analyzed by a 3 (Groups) x 3 (Testing Period) analyses of variance. The main effect of Testing Period (a repeated measure) and its interactions were evaluated by using conservative degrees of freedom. Simple effects and individual comparisons were evaluated by F-tests.

[26] *Table 1*

Means and Standard Deviations for Age, Education, Shipley Institute of Living Scale and Eysenck Personality Inventory Scores for the Male and Female Groups

		Males (n = 10)	Females (n = 10) (Day 1)	Females (n = 10) (Day 14)
Age	$\bar{X}$	21.90	28.40	26.80
	SD	3.14	9.65	5.88
Education	$\bar{X}$	15.10	16.70	15.60
		2.08	2.11	2.07
Shipley				
Vocabulary	$\bar{X}$	31.90	32.70	33.70
	SD	3.98	4.72	3.30
Abstract	$\bar{X}$	34.67	34.00	34.80
	SD	3.46	5.66	3.91
WAIS*	$\bar{X}$	116.70	117.80	117.60
	SD	6.04	10.36	4.70
Eysenck				
Extraversion	$\bar{X}$	11.80	13.00	11.60
	SD	2.82	2.75	3.10
Neuroticism	$\bar{X}$	9.00	8.40	9.90
	SD	6.78	3.57	5.86
Lie	$\bar{X}$	3.20	2.33	2.11
	SD	1.75	1.41	0.78

* Estimated WAIS Full Scale I.Q. from total Shipley raw score corrected for age (Paulson & Lin, 1970).

Results

Means and standard deviations for age and education are presented in Table 1. The females were slightly older than the males, but this difference was only significant for males as compared to females tested on Day 14 ($t = 2.32$, $p < .05$). All three groups were comparable on education. Means and standard deviations for the Shipley Institute of Living Scale and the Eysenck Personality Inventory scores also are presented in Table 1. There were no significant differences among groups in intellectual levels as measured by the Shipley vocabulary, abstract or WAIS Full Scale I.Q. as estimated from the total Shipley score corrected to age (Paulson & Lin, 1970). Groups also were not significantly different on personality factors such as extraversion or neuroticism or on the lie scale as measured by the Eysenck Personality Inventory.

Blood Alcohol Levels. Means and standard deviations for the blood alcohol variables are presented in Table 2. Females as a group obtained a significantly higher peak blood alcohol level than males ($t = 2.38$, $p < .05$). There were no significant differences between males and females on any of the other blood alcohol variables. The two female groups were not significantly different from one another on any of the blood alcohol variables.

[13] *Immediate Recall.* Means and standard deviations for immediate recall during baseline and on the ascending and descending limbs of the blood alcohol curve for the three groups are presented in Table 3. A 3 (Groups) x 3 (Testing Period) analysis of variance indicated no significant difference among groups ($F = 0.47$, N.S.).

[27]

Table 2

Means and Standard Deviations for Blood Alcohol Variables for First Testing of Males and Females

	Peak BAL %	Time to Peak (min.)	Absorption Rate Initial Rate	Absorption Rate Later Rate (b)	Peak Time	Elimination Rate (b)
Males						
$\bar{X}_{10}$	0.0630	39.00	0.1677	0.0806	0.1082	0.0183
S.D.	0.0086	15.25	0.0825	0.0574	0.0363	0.0096
Females (Day 1)						
$\bar{X}_{10}$	0.0725	36.00	0.2347	0.1138	0.1522	0.0180
S.D.	0.0146	15.88	0.1034	0.1083	0.0913	0.0079
Females (Day 14)						
$\bar{X}_{10}$	0.0715	40.30	0.1903	0.0945	0.1334	0.0220
S.D.	0.0091	18.42	0.0622	0.0610	0.0754	0.0073

[28]

Table 3

Means and standard deviations for immediate and delayed recall during baseline and on the ascending and descending limbs of the blood alcohol curve for males, females tested on Day 1, and females tested on Day 14.

	Baseline		Ascending Limb		Descending Limb	
	Immediate	Delayed	Immediate	Delayed	Immediate	Delayed
Males (n=10)						
$\bar{X}$	39.00	20.70	32.50	11.80	36.40	12.60
SD	9.23	8.77	7.50	7.08	8.96	7.38
Females (n=10) Day 1						
$\bar{X}$	39.50	19.60	30.60	6.80	34.10	5.90
SD	6.54	6.92	6.95	3.49	4.89	3.31
Females (n=10) Day 14						
$\bar{X}$	41.30	20.30	34.60	8.90	36.30	9.30
SD	6.78	4.27	6.26	6.17	4.47	5.08

The main effect of Testing Period was highly significant ($F(2,54) = 21.10$, $p < .01$) while the Groups X Testing Period interaction was not significant ($F = 0.82$, N.S.). The Newman-Keuls procedure revealed that immediate memory was impaired on both the ascending ($p < .01$) and on the descending ($p < .01$) limbs as compared to baseline. Performance on the descending limb was significantly better than performance on the ascending limb ($p < .01$). This is consistent with a previous study that found a similar memory impairment at a blood alcohol level of 0.08%.

Delayed Recall. Means and standard deviations for delayed recall during baseline and on the ascending and descending limb for the three groups also are presented in Table 3. The main effect of groups ($F = 1.80$, N.S.) and the Groups X Testing Period interaction ($F = 1.17$, N.S.) were not significant. A significant main effect of Testing Period was obtained ($F(2,54) = 67.61$, $p < .01$).

Comparison of the limbs revealed that delayed recall was impaired on both the ascending ($p < .01$) and descending ($p < .01$) limbs as compared to baseline. However, performances on the ascending and descending limbs were not significantly different.

Since there were no significant baseline differences between males and females, an analysis was also carried out on only ascending and descending limb performances for the males ($n = 10$) and the combined females ($n = 20$) for both [14] immediate and delayed recall. No significant difference was found between males and females for immediate recall. A significant group effect was found for delayed recall ($F\ (1,20) = 5.53$, $p < .05$) which revealed that the males performed better than the females.

Immediate vs. Delayed Recall. It appeared that alcohol affected delayed memory more than immediate memory. A 2 (Groups) X 2 (Recall) X 2 (Limb) analysis was carried out to determine if alcohol affected immediate and delayed recall differentially. Since the baseline scores were different for immediate and delayed recall, both scores were converted to percent by dividing performance on the ascending limb and performance on the descending limb each by the respective baseline score for each subject. This percent change score analysis revealed a significant group effect ($F\ (1,28) = 5.76$, $p < .05$) with females demonstrating a greater alcohol effect overall. A highly significant recall effect was also obtained ($F\ (1,28) = 127.04$, $p < .01$), indicating that alcohol affected delayed recall to a greater extent than immediate recall. This is illustrated in Figure 2. Neither the main effect of limb nor any of the interactions was significant.

These results indicate that females are more impaired by alcohol than males on the delayed recall task.

However, no differences were found between groups of females tested on Day 1 and Day 14.

Serial Position Curves. Serial position curves for the immediate memory task during baseline and on the

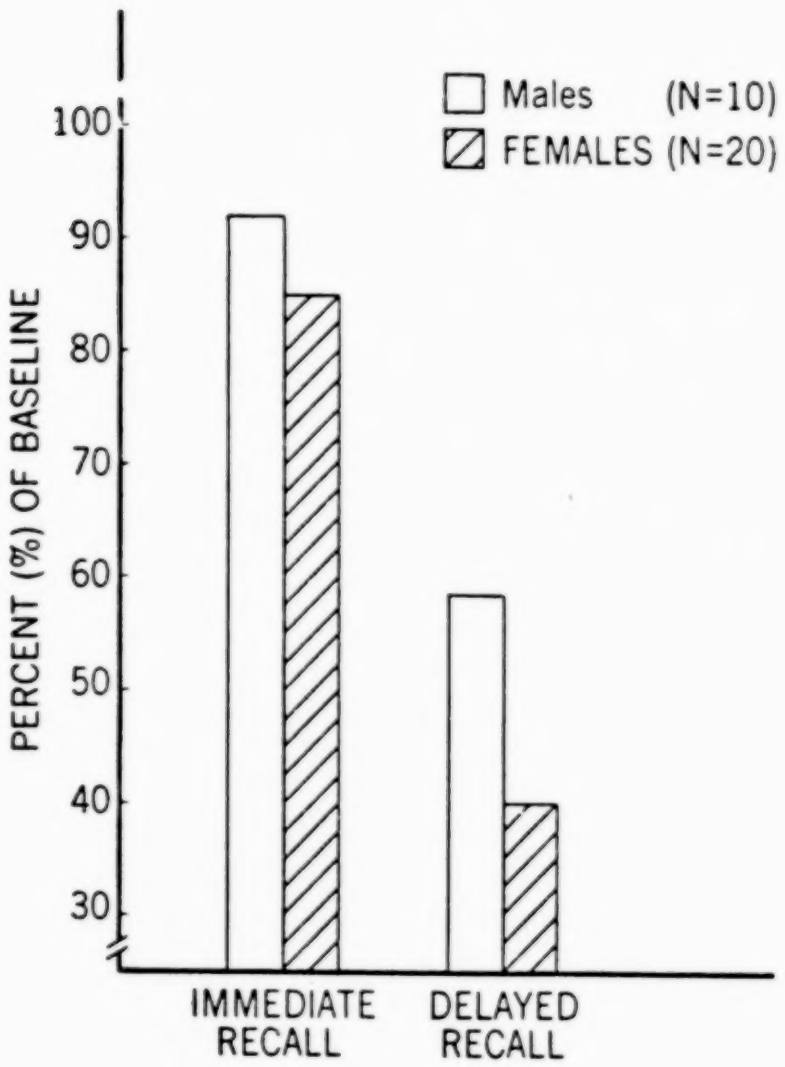

Figure 2. Immediate and delayed recall during alcohol for males and females expressed as percent change of baseline.

ascending limb for the combined males and females are presented in Figure 3. The main effect of alcohol was on recall of words from the first half of the list; those words that are reported to be in long-term storage (LTS) (Glanzer, 1971; Jones, 1973). There was little [15]

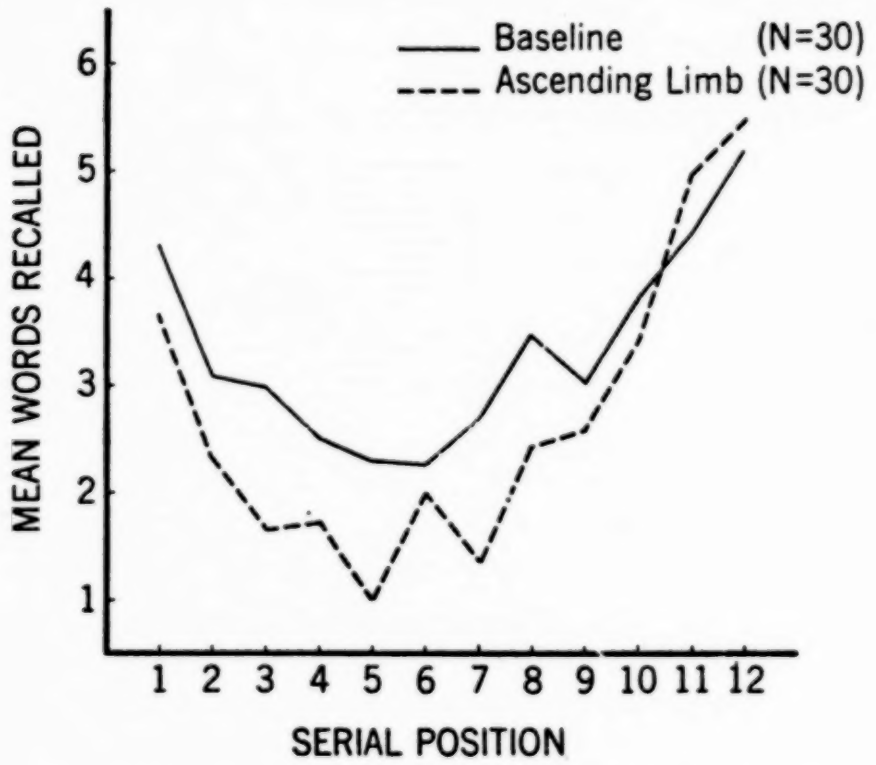

Figure 3. Mean words recalled across serial positions during baseline and on the ascending limb of the blood alcohol curve for 10 male and 20 female subjects combined.

effect of alcohol on recall of words from the last part of each list; those words that are in short-term storage (STS).

Pill vs. No Pill. Means, standard deviations and t-values for blood alcohol variables for females taking and

not taking birth control pills are presented in Table 4. The general trend was for females on the pill to absorb alcohol slower by taking longer to reach their peak blood alcohol level which is slightly lower than for females not on the pill. Elimination rates were virtually identical for the two groups. Analysis of the memory data revealed no difference between the two groups in baseline performance or performance during the alcohol state for either immediate or delayed recall.

Re-Test Data. A total of 24 subjects were tested twice: 9 males, 7 females from the Day 1 group, and 8

[29]

Table 4

Means, Standard Deviations and t-Values for Blood Alcohol Variables for Females Taking and Not Taking Birth Control Pills

	Peak BAL	Time to Peak	Absorption Rate			Elimination Rate
	%	(min)	Initial Rate	Later Rate(b)	Peak Time	(b)
Females (No Pill)						
$\bar{X}_{10}$	0.0760	32.10	0.2402	0.1407	0.1758	0.0198
SD	0.0129	15.36	0.0943	0.1062	0.0911	0.0063
Females (Pill)						
$\bar{X}_{10}$	0.0680	44.20	0.1847	0.0676	0.1097	0.0203
SD	0.0098	16.86	0.0712	0.0374	0.0590	0.0092
t-Value	1.57	1.68	1.49	2.06*	1.93*	0.15

* $p < .05$, one-tail test

females from the Day 14 group. There were no significant changes from Time 1 to Time 2 for either the Shipley or the Eysenck measures in any group.

Blood Alcohol Variables. There were no significant changes from Time 1 to Time 2 in blood alcohol variables for any of the three groups. Correlations between the Time 1 and Time 2 blood alcohol variables were generally high for all three groups and similar for males and females. There were no significant differences between males (n = 9) and females (n = 15) on blood alcohol variables on Day 2. Analyses were carried out on the blood alcohol variables for the five females on Time 1 who did not return on Time 2, as compared to the 15 who did return for Time 2 testing. The time to reach their peak blood alcohol level was significantly faster for these five dropout subjects ($t = 3.11$, $p < .01$) than for the other 15 subjects for Time 1. Later absorption rate ($t = 3,05$, [16] $p < .01$), peak blood alcohol level divided by time to reach peak ($t = 2.37$, $p < .05$) and elimination rate (2.13, $p < .05$) were all faster for the five dropout subjects. Although the dropouts had a higher peak blood alcohol level than the others, this difference did not reach statistical significance ($t = 1.99$, N.S.). It appears that this selection factor due to the dropouts resulted in the failure to obtain a significant difference on Time 2 between males and females on peak blood alcohol level. Since there was no significant change in blood alcohol variables from Time 1 to Time 2, analyses were carried out on the blood alcohol variables between Day 1 and Day 14 for the subjects tested twice. There were no statistically significant differences.

One explanation for the failure to find significant differences between the two female groups might have been related to a variation in the day of the menstrual

cycle on which they were actually tested. A review of the data indicated that some women had been tested several days before onset of menstruation since they were not able to be scheduled on the exact day or simply misjudged the beginning of their menstrual cycle. Since there were no significant differences in blood alcohol variables between first and second testings, the two testing sessions were combined to evaluate possible differences among days 1 to 3 (menstrual period), days 13 to 18 (inter-menstrual period) and days 21 to 28 (premenstrual period). A total of 34 testing sessions was included in the analysis. Eight women were tested during

[30]

Table 5

Means, standard deviations and t-values for blood alcohol variables during different days of the menstrual cycle.

	Days of the Menstrual Cycle				
	I	II	III	t-value	
	1-3 (n=8)	13-18 (n=14)	21-28 (n=12)	I vs III	II vs III
Peak Blood Alcohol Level (%)					
$\bar{X}$	0.0638	0.0679	0.0800	3.10**	2.73*
SD	0.0109	0.0101	0.0116		
Time of Peak (min.)					
$\bar{X}$	42.75	40.43	35.75	NS	NS
SD	7.85	18.95	17.72		
Absorption Rate (%/hr.)					
Initial					
$\bar{X}$	0.1584	0.1697	0.2479	2.22*	2.47*
SD	0.0851	0.0629	0.0930		
Peak BAL/Time					
$\bar{X}$	0.0938	0.1255	0.1636	2.72*	NS
SD	0.0321	0.0692	0.0796		
Elimination Rate (%/hr.)					
$\bar{X}$	0.0158	0.0181	0.0227	NS	NS
SD	0.0091	0.0084	0.0071		

* $p < .05$
** $p < .01$

menstruation, 14 during the inter-menstrual period, and 12 during the pre-menstrual period. Five women were only tested once and one subject was tested on day 9 and was not included in this analysis. The blood alcohol variables for these three phases of the menstrual cycle are presented in Table 5. Significantly higher [17] peak blood alcohol levels and faster absorption rates were found during the pre-menstrual period as compared to either the menstrual or the inter-menstrual times. Significant differences were not obtained for time to reach peak or for elimination rate. There were also no significant differences in performance on the memory task on either the immediate or delayed recall among the three menstrual times.

Comparisons of females tested during the pre-menstrual period with the 10 males revealed that the females obtained a significantly higher peak blood alcohol level than the males ($t = 3.86$, $p < .01$) as well as having faster initial absorption rates ($t = 2.14$, $p < .05$) and faster overall absorption rates as determined by dividing the peak blood alcohol level by time to reach peak ($t = 2.16$, $p < .05$). The peak blood alcohol levels for the males and the three groups of females are illustrated in Figure 4. No significant differences were found between the males and any of the three female groups for time to reach peak or elimination rate.

Discussion

These results indicate that females are more affected than males by a given dose of alcohol calculated on body weight. Females obtained a significantly higher peak blood alcohol level than males and also were more impaired than males on the delayed recall verbal memory task, even though both males and females were tested at comparable blood alcohol levels. No significant dif-

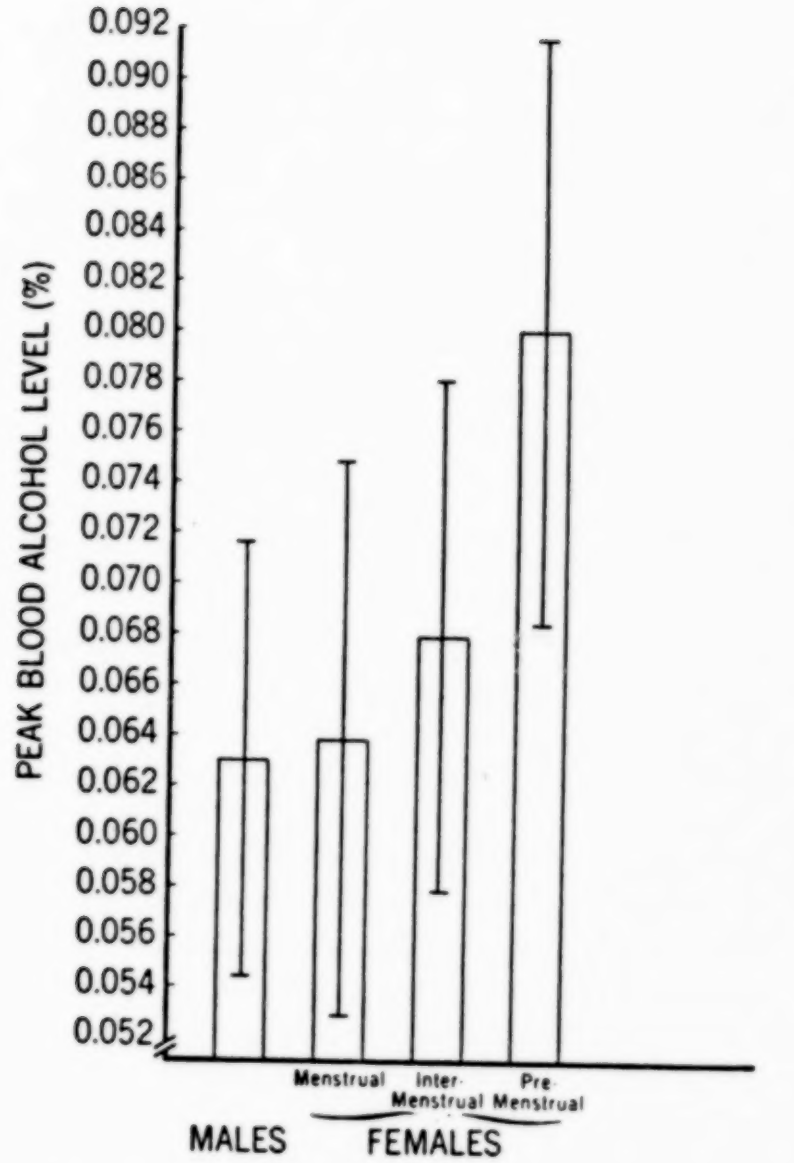

Figure 4. Mean peak blood alcohol levels for males and for females tested at different times in the menstrual cycle.

ferences were obtained for blood alcohol variables or performance between the females tested approximately on day 1 of day 14 of the menstrual period. However, a more detailed analysis revealed that those females who

[18] were actually tested during the pre-menstrual times (days 21 to 28) had significantly higher peak blood alcohol levels and faster absorption rates than females tested furing the menstrual or inter-menstrual period. However, there were no performance differences among females tested during different phases of the menstrual cycle. Females taking birth control pills were not significantly different from females not taking birth control pills for either blood alcohol variables or performance measures.

Direct support for the Broverman *et al* hypothesis was not found in this study in that males and females performed virtually identical on both an immediate and a delayed cognitive task before drinking alcohol. The finding that females were more impaired by alcohol than males on the delayed recall task but not on the immediate recall task suggests that tasks that require an inhibition of response may be more affected by alcohol than tasks that require an immediate response, this effect being greater for females than males.

Although a significant relationship was found between days of the menstrual cycle and blood alcohol variables, cognitive performance was not related to cyclic fluctuation in female hormones in normally menstruating women. These results are consistent with other reports that females do not show cognitive performance differences at different times in the menstrual cycle. Several factors may have been related to this failure to find a relationship of performance to time in the menstrual cycle. First, this memory task may not have been sensitive to the relatively small changes in hormonal levels and the accompanying physiological and psychological factors that most women experience. Second, a subject selection factor may have been involved in that only females who had few overt symptoms associated with the

[19] menstrual cycle volunteered for the study. This is supported by the data from the Menstrual Distress Questionnaire. Third, a *post hoc* analysis revealed that blood alcohol variables, but not performance, were influenced by alcohol differentially during the pre-menstrual time as opposed to other times in the cycle. This suggests that the decline or rate of decline of estrogen or progesterone or both may be more important than absolute levels (Somerville, 1972). Future research should be directed at investigating the separate phases of the menstrual cycle as well as determining the absolute and changing hormonal levels.

The finding of a higher peak blood alcohol level in females than in males provides direct empirical support for the theoretical formulation that females should obtain higher peak blood alcohol levels than males. However, the reason for this difference may not be as simple as previously supposed since a higher peak blood alcohol level was found only in females tested during the pre-menstrual time. Although other reports have indicated sex differences in blood alcohol variables, the time in the menstrual cycle was apparently not taken into consideration (Shumate, Crowther & Zarafshon, 1967). Future research employing male and female subjects should take these differences into consideration.

The results of the memory task are in agreement with previous reports that alcohol impairs immediate free recall more on the ascending than on the descending limb of the blood alcohol curve. A greater impairment of delayed recall as compared to immediate recall for all subjects is also consistent with previous reports (Jones, 1973). This difference was a result of words not being recalled from long-term storage, with recall of words from short-term [20] storage not being impaired. The alcohol effect on memory in this study at a

blood alcohol level of 0.04% is very similar to a previous study where subjects were tested at 0.08% (Jones, 1973). This suggests that memory is affected by relatively low doses of alcohol and shows little more impairment at higher doses. This is in contrast to animal studies where dose-response curves have been obtained during active and passive learning experiments (Holloway, 1972; Holloway and Wansley, 1973; Holloway and Vardiman, 1971).

Summary

Males and females were equally impaired by alcohol on an immediate recall memory task but females were more impaired than males on a delayed recall memory task. Females obtained significantly higher peak blood alcohol levels than males on the same dose of alcohol. Females tested during the pre-menstrual time of the cycle reached significantly higher peak blood alcohol levels than females tested at other times in the menstrual cycle. Memory was not affected differentially for females tested at different days in the menstrual cycle. It appears that males and females may respond differentially to the same dose of alcohol depending on the type of task employed and the day in the menstrual cycle in which females are tested.

These results suggest that females may become more intoxicated than males on the same alcohol dose as a function of sex hormonal levels as reflected by the day of the menstrual cycle. Future studies will be directed toward determining the levels of estrogen and progesterone as well as testosterone before and during alcohol intoxication to determine the relationship between blood alcohol variables, cognitive performance and sex hormone levels.

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[25] Acknowledgements

Gratitude is expressed to Patsy Wallace for her assistance in data collection and statistical computations.

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ITEM 17 — PLAINTIFFS' EXHIBITS 3 AND 4 AND TRIAL BRIEF APPENDIX (EXTRACT)

1970 CENSUS OF POPULATION
GENERAL POPULATION CHARACTERISTICS
U.S. DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS

° ° °

OKLAHOMA

° ° °

Table 20. Age by Race and Sex: 1970

° ° °

Male

Age	*Total*
° ° °	° ° °
18 years	24,095
19 years	22,955
20 years	22,638
° ° °	° ° °
[18, 19, 20 year olds	69,688]

° ° °

Female

Age	*Total*
° ° °	° ° °
18 years	23,522
19 years	22,732
20 years	22,253
° ° °	° ° °
[18, 19, 20 year olds	68,507]

° ° °

Table 24. Age by Race and Sex, for Areas and Places, 1970

Oklahoma City

Age	*Male*	*Female*
° ° °	° ° °	° ° °
18 years	2,822	3,196
19 years	2,455	3,119
20 years	2,357	3,282
° ° °	° ° °	° ° °
[18, 19, 20 year olds	7,634	9,597]

MINNESOTA

° ° °

Table 20. Age by Race and Sex: 1970

Male

Age	*Total*
° ° °	° ° °
18 years	36,323
19 years	30,934
20 years	27,432
° ° °	° ° °
[18, 19, 20 year olds	94,689]

Female

Age	*Total*
. . .	. . .
18 years	38,566
19 years	35,522
20 years	34,922
. . .	. . .
[18, 19, 20 year olds	109,010]

. . .

UNITED STATES

. . .

Table 50. Single Years of Age by Race and Sex: 1970

Age	*Male*	*Female*
. . .	. . .	. . .
18 years	1,893,207	1,872,895
19 years	1,762,471	1,797,746
20 years	1,680,817	1,809,713
. . .	. . .	. . .
[18, 19, 20 year olds	5,336,495	5,480,354]

. . .

. . . . . .

ITEM 18 — DEFENDANTS' EXHIBITS 1-5 (REFERENCE)

[It has been deemed by counsel that the extracts from the State's Exhibits 1-5 which the District Court appended to its published opinion herein, 399 F.Supp. at 1314-1321, and Jurisdictional Statement at A22-A31, sufficiently reflect those portions thereof relevant to the consideration of this Appeal.]

ITEM 19 — DEFENDANTS' EXHIBIT 6 (EXTRACT)

CRIME
IN THE UNITED STATES
1972
Issued by — Clarence M. Kelley, Director – FBI
UNIFORM CRIME REPORTS

[FBI Seal]

For Release
Wednesday PM, August 8, 1973
Printed Annually

[vi] Foreword

The crime information in the Uniform Crime Reporting publications which date back to the commencement of this Program in 1930 is a testimonial to the wisdom and progressive outlook of law enforcement administrators. The Uniform Crime Reporting Program is the product of a voluntary cooperative law enforcement effort to produce national crime statistics. Approximately 10,000 law enforcement agencies, covering 93 percent of the United States population, submit monthly and annual reports to the FBI so that information can be assembled to depict the current crime problem in the United States. National crime information would not be available for use by local, state, and Federal governments in planning and developing means of combatting the crime problem without the voluntary participation of law enforcement agencies.

Uniform Crime Reports is a practical Program in that each contributing law enforcement agency is responsible for submitting data in accordance with national crime definitions and standards. Much of the quality in

this Program is directly related to the degree of adherence to Uniform Crime Reporting standards. In order to improve the overall quality of the information collected in the Program, the FBI in 1967 began encouraging the development of state Uniform Crime Reporting Programs. Under this concept, states are encouraged to pass mandatory crime reporting laws and designate a state criminal justice agency to collect and verify submitted crime data. Currently 14 states are operating such programs. As part of this concept, the state agency needs to develop audit capability designed to ensure that each law enforcement agency is following the national standards.

Each state which develops a Uniform Crime Reporting Program has local and state information immediately available for planning, legislation, and disbursement of funds. Through the use of such information state governments can identify areas within the state criminal justice system that require additional resources. This enables the crime control effort to isolate and more effectively handle the problem.

The Law Enforcement Assistance Administration offers financial assistance to states in connection with the development and establishment of such crime reporting systems. As more and more states develop mandatory state systems, the overall quality of crime data will improve and the amount of information available for use by those concerned with the administration of criminal justice will increase.

Federal Bureau of Investigation.

[123]

Table 29. — Total Arrest Trends, 1967-72
[3,601 agencies; 1972 estimated population 125,240,000]

Offense charged	Number of persons arrested								
	Total all ages			Under 18 years of age			18 years of age and over		
	1967	1972	Percent change	1967	1972	Percent change	1967	1972	Percent change
• • •									
Driving under the influence	245,643	483,546	+96.8	2,511	5,983	+138.3	243,132	477,563	+96.4
Liquor laws	173,460	159,505	−8.0	53,715	59,312	+10.4	119,745	100,193	−16.3
Drunkenness	1,346,623	1,147,774	−14.8	30,726	33,857	+10.2	1,315,807	1,113,917	−15.3
• • •									

[129]

Table 34. — Total Arrests, Distribution by Sex, 1972
[6,195 agencies; 1972 estimated population 160,416,000]

Offense charged	Number of persons arrested			Percent male	Percent female	Percent of total		
	Total	Male	Female			Total	Male	Female
• • •								
Driving under the influence	604,291	562,859	41,432	93.1	6.9	8.6	9.5	3.9
Liquor laws	207,675	178,160	29,515	85.8	14.2	3.0	3.0	2.8
Drunkenness	1,384,735	1,284,677	100,058	92.8	7.2	19.7	21.6	9.5
• • •								

ITEM 20 — DEFENDANTS' EXHIBIT 7 (ENTIRE)

THE DRINKING DRIVER
AND THE DRINKING PEDESTRIAN
DURING 1971

Planning Section
Minnesota Department
of Public Safety
210 Highway Building
St. Paul, Mn. 55155

[1]

Part 1. Alcohol Laws in Traffic Safety

Minnesota Statutes, Chapter 169, provide for control of the use of liquor on the public roadways to prevent intoxicated persons from driving motor vehicles. Following is a summary of the laws prohibiting the use of alcohol while driving a motor vehicle and providing for a testing system for enforcement and statistical use:

The blood alcohol content of all fatally injured drivers and pedestrians 16 or older must be determined if the victim dies within four hours of the crash. Medical technicians or the Minnesota Bureau of Criminal Apprehension laboratory technicians usually perform these tests. This information is then used for statistical purposes by the Department of Public Safety.

There is also an alcohol-testing program for motor vehicle drivers suspected of being intoxicated while driving on a public road. It is a misdemeanor to operate a motor vehicle while under the influence of an alcoholic beverage or having 0.10 percent or more alcohol in the blood.

A preliminary screening test for intoxication is provided for by law, to guide a police officer in deciding whether an arrest should be made. If the officer "has reason to

believe from the manner in which a driver is driving . . . a vehicle" that the driver is intoxicated, he may require the driver to submit to this screening test, the results of which are not admissible in court. If the driver refuses to submit to the screening test, the officer may place him under arrest. After being arrested, or if he has just been involved in a motor vehicle crash resulting in property damage, personal injury or death, the driver is again asked to submit to a blood, breath or urine test. The results of this test are admissable evidence in court action.

If the driver refuses to allow the test after he is arrested, no test will be taken, but his license may be revoked for six months, under the "implied consent law." Although he later may be acquitted of any DWI charge, the revocation is still valid.

If a driver is convicted of driving while intoxicated, he is subject to a maximum fine of $300 or up to 90 days' imprisonment, or both, and his license will be revoked for at least 30 days. If, however, the violation results in "grievous" bodily injury or death to another person, the penalty is from 60 to 90 days' imprisonment and license revocation for at least 90 days.

In some cases, the convicted person may submit to medical treatment and his sentence will be stayed by the court.

[2] A subsequent DWI conviction within three years is punishable by 10 to 90 days' imprisonment and at least 90 days' license revocation.

If a driver has had three DWI convictions within three years, he will not be issued any type of driver license until a certification has been received that the person has been rehabilitated.

In 1971, over 81 percent of the fatally injured drivers and over 76 percent of the fatally injured pedestrians who tested alcohol positive were found to be legally intoxicated at the time of the crash. Almost 10,000 drivers were convicted of driving while intoxicated, and over 1,400 were convicted for a second DWI offense. Nationwide, about half the fatal motor vehicle crashes involve alcohol each year.

These statistics support the need for alcohol laws and their enforcement. The prime reason for these laws, and for the existence of the agencies which enforce them, is to preserve the safety of the public; obviously, safety is severely threatened when alcohol and driving are combined.

[3]

Part 2. The Drinking Driver

This report has been prepared by the Minnesota Department of Public Safety in accordance with Minnesota Statutes, Chapter 169.10. In 1968, legislation was enacted providing for an alcohol blood testing program handled by county coroners throughout the state. All drivers and pedestrians over 16 who die within four hours of a traffic crash are to be tested to determine their blood alcohol content.

In 1971, 59.8 percent of the fatally injured drivers tested were alcohol positive and 81.3% of the positive cases were at or above the .10% level of intoxication. Between the hours of 9 p.m. and 3 a.m., over 80 percent of the fatally injured drivers tested were alcohol positive. Males composed 91.0% of the alcohol positive cases and 16 to 24 year olds composed 48.4% of total alcohol positive cases.

This report is based on data printed in "Facts on Motor

Vehicle Crashes in Minnesota During 1971", but is more comprehensive and deals entirely with alcohol involvement in motor vehicle crashes. Data from the county coroner's testing program has been updated since the publication of the crash summary book, and now includes statistics on 259 drivers and 44 pedestrians who died in crashes and were tested for their blood alcohol levels.

[4]

TABLE 1
DRINKING DRIVER FACTS

1968	%	1969	%	1970	%	1971	%	
1,060		988		987		1,024		people were killed in motor vehicle crashes
531	49.6%	504	51.0%	488	49.5%	510	49.9%	drivers were killed
265	49.9%	270	53.5%	241	49.4%	259	50.8%	fatally injured drivers were tested for alcohol content (percent of all drivers killed)
144	54.3%	147	54.5	142	59.0%	155	59.8%	of those tested had alcohol in their system (called positive cases)
114	79.2%	122	82.9%	122	85.9%	126	81.3%	of the positive cases were at or above the 0.10% level of intoxication
131	91.0%	137	93.1%	136	95.8%	141	91.0%	of the positive cases were male
13	9.0%	10	6.9%	6	4.2%	14	9.0%	of the positive cases were female
37	32.5%	46	31.3%	42	29.5%	48	31.0%	of the positive cases which tested 0.10% or higher occurred between midnight and 3 a.m.
67	46.6%	63	42.9%	58	40.8%	75	48.4%	of the positive cases were between the ages of 16 and 24
56	49.1%	62	42.2%	49	34.5%	60	38.7%	of the positive cases which tested 0.10% or higher were in the 16-24 age range

[5]

TABLE 2
FATAL CRASHES INVOLVING DRINKING DRIVERS

TYPE OF CRASH	NUMBER	PERCENT
Multi-vehicle collision	63	40.6
Ran off the road	70	45.2
Collision with:		
parked vehicle	1	.6
fixed object	15	9.7
bicycle	1	.6
railroad train	4	2.7
Other non-collision (including overturned)	1	.6
Total	155	100.0

[6]

TABLE 3
DRIVER FATALITIES
by
Blood Alcohol Concentration and Road Classification

ROAD CLASS	TOTAL TESTED	TOTAL NEGATIVE	BLOOD ALCOHOL CONCENTRATION (PERCENT) .010-.049 M	.010-.049 F	.050-.099 M	.050-.099 F	.100-.149 M	.100-.149 F	.150-.249 M	.150-.249 F	.250-over M	.250-over F	TOTAL POSITIVE	PERCENT OF GROUP TESTING POSITIVE	PERCENT OF ALL POSITIVE CASES
INTERSTATE-rural	2	1							1				1	50.0	.6
INTERSTATE-urban	6	2	1		1						1	1	4	66.7	2.6
TRUNK HWY-rural	120	52	3		6	3	15	2	28	2	9		68	56.7	43.9
TRUNK HWY-urban	33	14	1	1			1		13		2	1	19	57.6	12.3
COUNTY ROAD	65	23	2		3	3	9		17		8		42	64.6	27.1
CITY STREET	25	9	1		2		1	1	8		3		16	64.0	10.3
TOWNSHIP ROAD	8	3	1		1		2				1		5	62.5	3.2
UNKNOWN	0	0											0	0.0	0.0
TOTAL	259	104	10		19		31		69		26		155	59.8	100.0

M = Male

F = Female

[7]

TABLE 4
DRIVER FATALITIES
by
Blood Alcohol Concentration and Age

AGE	TOTAL TESTED	TOTAL NEGATIVE	BLOOD ALCOHOL CONCENTRATION (PERCENT) .010-.049 M	.010-.049 F	.050-.099 M	.050-.099 F	.100-.149 M	.100-.149 F	.150-.249 M	.150-.249 F	.250-over M	.250-over F	TOTAL POSITIVE	PERCENT OF GROUP TESTING POSITIVE	PERCENT OF ALL POSITIVE CASES
0-20	58	24	3	1	2	2	8	1	13		3	1	34	58.6	21.9
21-24	58	16	2		4	1	11	2	17		5		42	72.4	27.1
25-29	23	5	2		1		2		7		5	1	18	78.3	11.6
30-34	15	6	1				1		6		1		9	60.0	5.8
35-39	15	8					1		2	1	3		7	46.7	4.5
40-44	18	8			1	1	1		2	1	4		10	55.6	6.6
45-49	16	5			2	1			7		1		11	68.8	7.0
50-54	6	2					1		1		2		4	66.7	2.6
55-59	10	5	1						4				5	50.0	3.2
60-64	12	6			1	1	1		3				6	50.0	3.9
65-up	28	19			2		2		5				9	32.1	5.8
TOTAL	259	104	10		19		31		69		26		155	59.8	100.0

M = Male

F = Female

[8]

TABLE 5
DRIVER FATALITIES
by
Blood Alcohol Concentration and Time

TIME	TOTAL TESTED	TOTAL NEGATIVE	BLOOD ALCOHOL CONCENTRATION (PERCENT) .010-.049 M	.010-.049 F	.050-.099 M	.050-.099 F	.100-.149 M	.100-.149 F	.150-.249 M	.150-.249 F	.250-over M	.250-over F	TOTAL POSITIVE	PERCENT OF GROUP TESTING POSITIVE	PERCENT OF ALL POSITIVE CASES
Mid-3am	64	8	1		5	2	13	2	24	1	7	1	56	87.5	36.1
3am-6am	19	3			1	1	5	1	6		2		16	84.2	10.3
6am-9am	23	20							2		1		3	13.0	1.9
9am-Noon	14	11							1		2		3	21.3	1.9
Noon-3pm	26	18			1		1		3		3		8	30.8	5.3
3pm-6pm	41	21	3		2	1	2		10		2		20	48.8	12.9
6pm-9pm	31	15	1		1		3		6	1	3	1	16	51.6	10.3
9pm-Mid	39	3	4		2	2	4		15		3		31	79.5	20.0
Unknown	2	0			1*						1*		2	100.0	1.3
Total	259	104	10		19		31		69		26		155	59.8	100.0

M = Male

F = Female

*Unknown sex

[9]

TABLE 6
DRIVER FATALITIES
by
Blood Alcohol Concentration and Month

MONTH	TOTAL TESTED	TOTAL NEGATIVE	BLOOD ALCOHOL CONCENTRATION (PERCENT) .010-.049 M	.010-.049 F	.050-.099 M	.050-.099 F	.100-.149 M	.100-.149 F	.150-.249 M	.150-.249 F	.250-over M	.250-over F	TOTAL POSITIVE	PERCENT OF GROUP TESTING POSITIVE	PERCENT OF ALL POSITIVE CASES
January	13	7			2	1	1		2				6	46.2	3.8
February	10	4			1		2		2		1		6	60.0	3.8
March	17	6			2	1			4		4		11	64.7	7.1
April	22	10	2				1		6		2	1	12	54.5	7.7
May	18	8	1				2		5		2		10	55.6	6.5
June	15	11					2	1			1		4	26.7	2.6
July	31	12	2		1	1	4		9		2		19	61.3	12.3
August	29	10			2		2		10	1	4		19	65.5	12.3
September	36	14	1		3	1	4	1	10	1	1		22	61.1	14.2
October	29	10	2	1		1	7		6		1	1	19	65.5	12.3
November	25	7			1	1	1		10		5		18	72.0	11.6
December	14	5	1		1		2	1	3		1		9	64.2	5.8
TOTAL	259	104	10		10		31		69		26		155	59.8	100.0

M = Male

F = Female

Part 3. Policing the Drinking Driver

The emphasis being placed on policing the drinking driver is shown by the increased number of convictions for driving while intoxicated in 1971. DWI convictions number 9,687, up 12.2 percent from 1970. Minnesota Highway Patrol DWI arrests alone increased 29.5 percent to 2,410 in 1971. Repeat DWI convictions were up to 1,915, which is 19.8 percent of the total DWI convictions for 1971.

Out of 4,301 analyses of specimens submitted to the Bureau of Criminal Apprehension laboratory by state and local police agencies, 4,135 (96 percent) were positive. Of the 4,135 positive cases, 3,856 (93 percent) were at or above the .10 percent blood alcohol level which is illegal when driving in Minnesota. A total of 3,387 subjects (82 percent) were at or above the .15 percent level, and 27 subjects were between .350 and .399 — levels dangerously close to lethal dosages.

This data indicates that the majority of drivers who are arrested for drinking while driving are at very high levels of intoxication and thus are severly impaired in their ability to operate a motor vehicle.

TABLE 1
DWI CONVICTIONS

1971	9,687
1970	8,634
1969	8,471
1968	7,431
1967	5,977
1966	5,792
1965	6,133
1964	6,307

TABLE 2
REVOCATIONS UNDER
THE IMPLIED CONSENT LAW*

1971	423
1970	855
1969	691
1968	166
1967	22
1966	22
1965	25
1964	17

*The decrease in revocations under the implied consent law is a result of a Minnesota Supreme Court ruling handed down on March 12, 1971. It decreed that a driver who refuses to take a chemical test cannot have his license revoked under the implied consent law if he pleads quilty to driving under the influence.

TABLE 3
REPEAT DWI CONVICTIONS

	1966	1967	1968	1969	1970	1971
Second offense	851	708	983	1,162	1,316	1,454
Third offense	197	200	228	276	351	370
Fourth offense	44	34	48	41	64	57
Fifth offense	11	7	7	10	22	23
Sixth offense	3	2	4	3	3	6
Seventh offense	0	0	0	0	3	1
Eighth offense	2	0	0	0	1	2
Ninth offense	2	1	0	0	0	1
Tenth offense	0	0	0	0	0	1
Total repeat convictions	1,110	952	1,270	1,492	1,760	1,915
Total DWI convictions	5,792	5,977	7,431	8,471	8,634	9,687
Percent repeat convictions	19.2	15.9	17.1	17.6	20.4	19.8

TABLE 4
HIGHWAY PATROL DWI ARRESTS AND CONVICTIONS

YEAR	NUMBER ARRESTS	NUMBER CONVICTIONS	PERCENT CONVICTIONS
1971	2,410	1,954	81.1
1970	1,860	1,510	81.2
1969	1,640	1,404	85.6
1968	1,535	1,342	87.4
1967	1,384	1,242	89.7
1966	1,225	1,164	95.0
1965	1,268	1,184	93.4
1964	1,270	1,211	95.4

TABLE 5
BLOOD ALCOHOL LEVELS IN DWI ARRESTS

Alcohol Level (percent)	1969	1970	1971
Negative (.000-.009)	137	151	166
.010-.049	114	86	52
.050-.099	178	176	229
.100-.149	559	612	469
.150-.199	1,154	1,343	1,653
.200-.249	878	905	1,063
.250-.299	327	293	570
.300-.349	52	54	74
.350-.399	10	12	27
TOTAL	3,409	3,632	4,301

(Data obtained from Bureau of Criminal Apprehension laboratory and refer to analysis of specimens submitted by local and state police agencies)

[13]

TABLE 6

BLOOD ALCOHOL LEVELS IN 1971 DWI ARRESTS

AGE	TOTAL TESTED	TOTAL NEGATIVE	TOTAL POSITIVE	BLOOD ALCOHOL CONCENTRATION(PERCENT) .010-.049	.050-.099	.100-.149	.150-.249	.250-over	% AGE GRP POS	% OF ALL POS CASES
Not Determined	639	30	609	8	42	79	382	98	95.5	14.7
15 and under	9	2	7	3	2		2		77.8	.2
16-20	475	48	427	16	68	89	245	9	89.9	10.4
21-24	656	15	641	11	47	98	440	45	98.0	15.5
25-34	772	15	757	7	27	73	534	116	97.7	18.1
35-44	608	17	591	2	8	47	381	153	97.3	14.4
45-54	617	12	605	2	15	38	389	161	98.2	14.6
55-64	370	11	359	2	10	23	255	69	97.1	8.7
65-over	155	16	139	1	10	22	88	18	89.6	3.4
TOTALS	4,301	166	4,135	52	229	469	2,716	669	96.3	100.0

NOTE: These data refer to analysis of chemical specimens submitted to the Bureau of Criminal Apprehension laboratory by state and local police agencies

[14]

Part 4. The Drinking Pedestrian

Motor vehicle crashes accounted for 157 pedestrian fatalities in 1971, an increase of 8 over the previous year. Of 44 pedestrians tested for blood alcohol content, 30 (68.2 percent) proved alcohol positive, and 23 of the 30 (76.7 percent) tested at or above the .10 percent level of intoxication.

Eighteen, or more than half, of the pedestrians who tested alcohol positive were killed on county roads or city streets. A third of the alcohol-positive fatalities, or 10, were 65 or older, and 5 were below the legal age for drinking. The hours between 9 p.m. and midnight were the most dangerous for the drinking pedestrian, with 12 alcohol-positive pedestrians killed during that period. Thirteen, or almost half, of the alcohol-positive pedestrian fatalities were killed in December and January; no drinking pedestrians were killed in May and June.

TABLE 1

DRINKING PEDESTRIAN FACTS

1968	%	1969	%	1970	%	1971	%	
122		114		149		157		pedestrians were killed in motor vehicle crashes*
46	37.7%	34	29.8%	41	27.5%	44	28.0%	fatally injured pedestrians were tested for alcohol content (percent of all pedestrians killed)
11	23.9%	17	50.0%	20	48.7%	30	68.2%	of those tested had alcohol in their system (called positive cases)
10	91.0%	15	88.1%	14	70.0%	23	76.7%	of the positive cases were at or above the 0.10% level of intoxication
4	36.4%	2	11.8%	3	15.0%	10	33.3%	of the positive cases were 65 or older

*Includes pedestrians killed in crashes in which striking the pedestrian was the second event.

[15]

TABLE 2
PEDESTRIAN FATALITIES
by
Blood Alcohol Concentration and Road Classification of Crash

ROAD CLASS	TOTAL TESTED	TOTAL NEGATIVE	BLOOD ALCOHOL CONCENTRATION (PERCENT) .010-.049 M	.010-.049 F	.050-.099 M	.050-.099 F	.100-.149 M	.100-.149 F	.150-.249 M	.150-.249 F	.250-over M	.250-over F	TOTAL POSITIVE	PERCENT OF GROUP TESTING POSITIVE	PERCENT OF ALL POSITIVE CASES
INTERSTATE-rural	1	1											0	0.0	0.0
INTERSTATE-urban	3	0							3				3	100.0	10.0
TRUNK HWY-rural	4	1			1	1			1				3	75.0	10.0
TRUNK HWY-urban	9	3					2		4				6	66.7	20.0
COUNTY ROAD	10	1	1		2		1		3		1	1	9	90.0	30.0
CITY STREET	17	8					1	1	2	1	4		9	52.9	30.0
TOWNSHIP ROAD	0	0											0	0.0	0.0
TOTAL	44	14	2		5		3		14		6		30	68.2	100.0

M = Male

F = Female

[16]

TABLE 3
PEDESTRIAN FATALITIES
by
Blood Alcohol Concentration and Age

AGE	TOTAL TESTED	TOTAL NEGATIVE	BLOOD ALCOHOL CONCENTRATION (PERCENT) .010-.049 M	.010-.049 F	.050-.099 M	.050-.099 F	.100-.149 M	.100-.149 F	.150-.249 M	.150-.249 F	.250-over M	.250-over F	TOTAL POSITIVE	PERCENT OF GROUP TESTING POSITIVE	PERCENT OF ALL POSITIVE CASE
0-20	9	4	1						3	1			5	55.6	16.7
21-24	2	1									1		1	50.0	3.3
25-29	1	1											0	0.0	0.0
30-34	1	1											0	0.0	0.0
35-39	0	0											0	0.0	0.0
40-44	2	0							1		1		2	100.0	6.8
45-49	4	1				1			1		1		3	75.0	10.0
50-54	5	1		1	1	1			1				4	80.0	13.3
55-59	2	1							1				1	50.0	3.3
60-64	4	0							3		1		4	100.0	13.3
65-up	14	4			2		2	1	3		2		10	71.4	33.3
TOTAL	44	14	2		5		3		14		6		30	68.2	100.0

M = Male

F - Female

[17]

TABLE 4
PEDESTRIAN FATALITIES
by
Blood Alcohol Concentration and Time of Crash

TIME	TOTAL TESTED	TOTAL NEGATIVE	BLOOD ALCOHOL CONCENTRATION (PERCENT) .010-.049 M	.010-.049 F	.050-.099 M	.050-.099 F	.100-.149 M	.100-.149 F	.150-.249 M	.150-.249 F	.250-over M	.250-over F	TOTAL POSITIVE	PERCENT OF GROUP TESTING POSITIVE	PERCENT OF ALL POSITIVE CASES
Mid-3am	8	2			1				4		1		6	75.0	20.0
3am-6am	1	1											0	0.0	0.0
6am-9am	0	0											0	0.0	0.0
9am-Noon	0	0											0	0.0	0.0
Noon-3pm	1	1											0	0.0	0.0
3pm-6pm	8	3				1		1	2			1	5	62.5	16.7
6pm-9pm	10	3	1	1	1		1		2		1		7	70.0	23.3
9pm-Mid	16	4			1	1	1		5	1	3		12	75.0	40.0
TOTAL	44	14	2		5		3		14		6		30	68.2	100.0

M = Male

F = Female

[18]

TABLE 5
PEDESTRIAN FATALITIES
by
Blood Alcohol Concentration and Month of Crash

MONTH	TOTAL TESTED	TOTAL NEGATIVE	BLOOD ALCOHOL CONCENTRATION (PERCENT) .010-.041 M	.010-.041 F	.050-.099 M	.050-.099 F	.100-.149 M	.100-.149 F	.150-.249 M	.150-.249 F	.250-over M	.250-over F	TOTAL POSITIVE	PERCENT OF GROUP TESTING POSITIVE	PERCENT OF ALL POSITIVE CASES
January	7	3						1	2		1		4	57.1	13.3
February	1	0	1										1	100.0	3.3
March	4	2							2				2	50.0	6.7
April	3	0					1				2		3	100.0	10.0
May	0	0											0	0.0	0.0
June	0	0											0	0.0	0.0
July	3	0			1		1				1		3	100.0	10.0
August	2	0			1				1				2	100.0	6.7
September	5	3							1	1			2	40.0	6.7
October	4	1		1		1			1				3	75.0	10.0
November	3	2							1				1	33.3	3.3
December	12	3			1	1			5		1	1	9	75.0	30.0
TOTAL	44	14	2		5		3		14		6		30	68.2	100.0

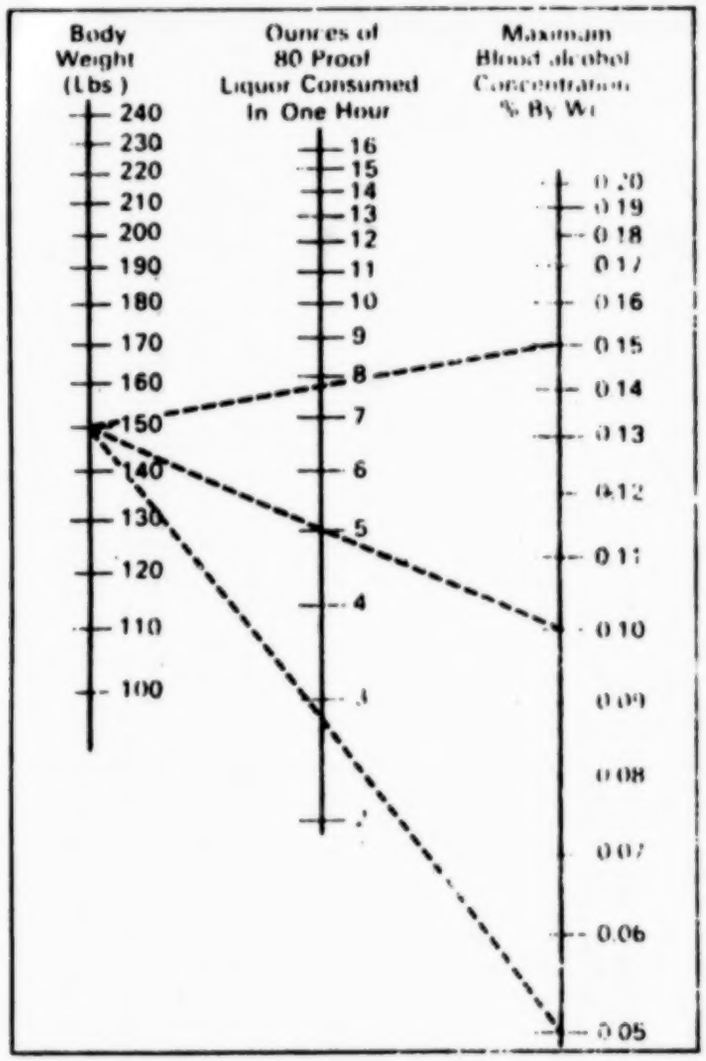
M = Male

F = Female

[19]

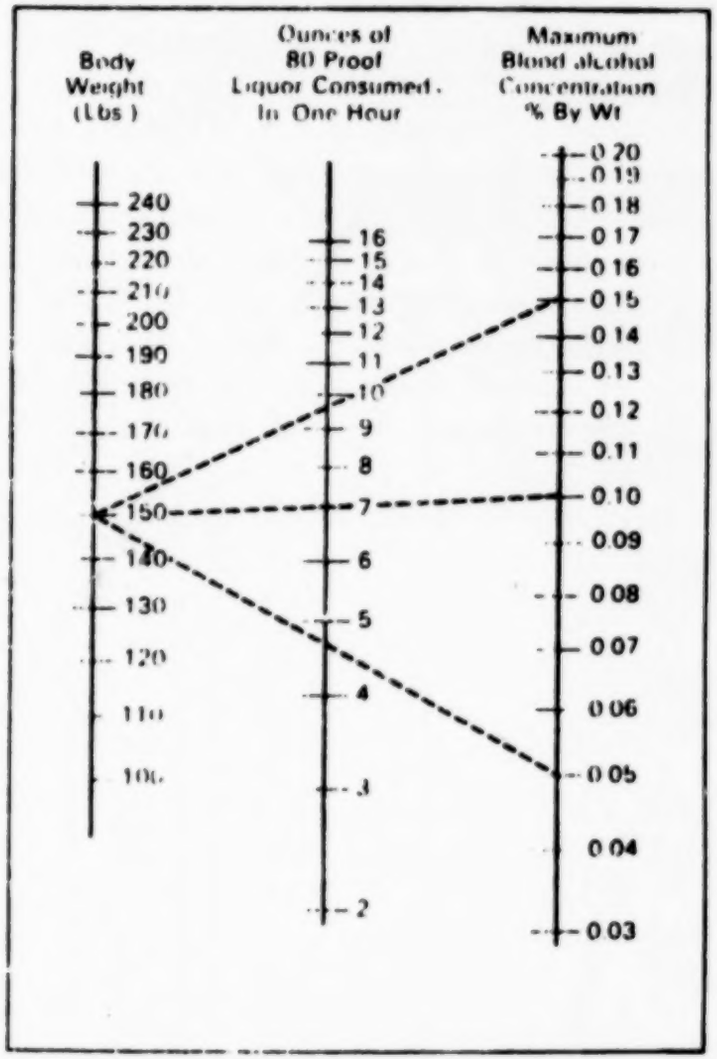
ESTIMATED AMOUNT OF 80 PROOF LIQUOR NEEDED TO REACH APPROXIMATE GIVEN LEVELS OF ALCOHOL IN THE BLOOD

"EMPTY STOMACH"
DURING A ONE-HOUR PERIOD* WITH LITTLE OR NO FOOD INTAKE PRIOR TO DRINKING



Adapted from a chart by U.S. Department of Health, Education and Welfare

"FULL STOMACH"
DURING A ONE HOUR PERIOD* OCCURRING BETWEEN ONE AND TWO HOURS AFTER AN AVERAGE MEAL



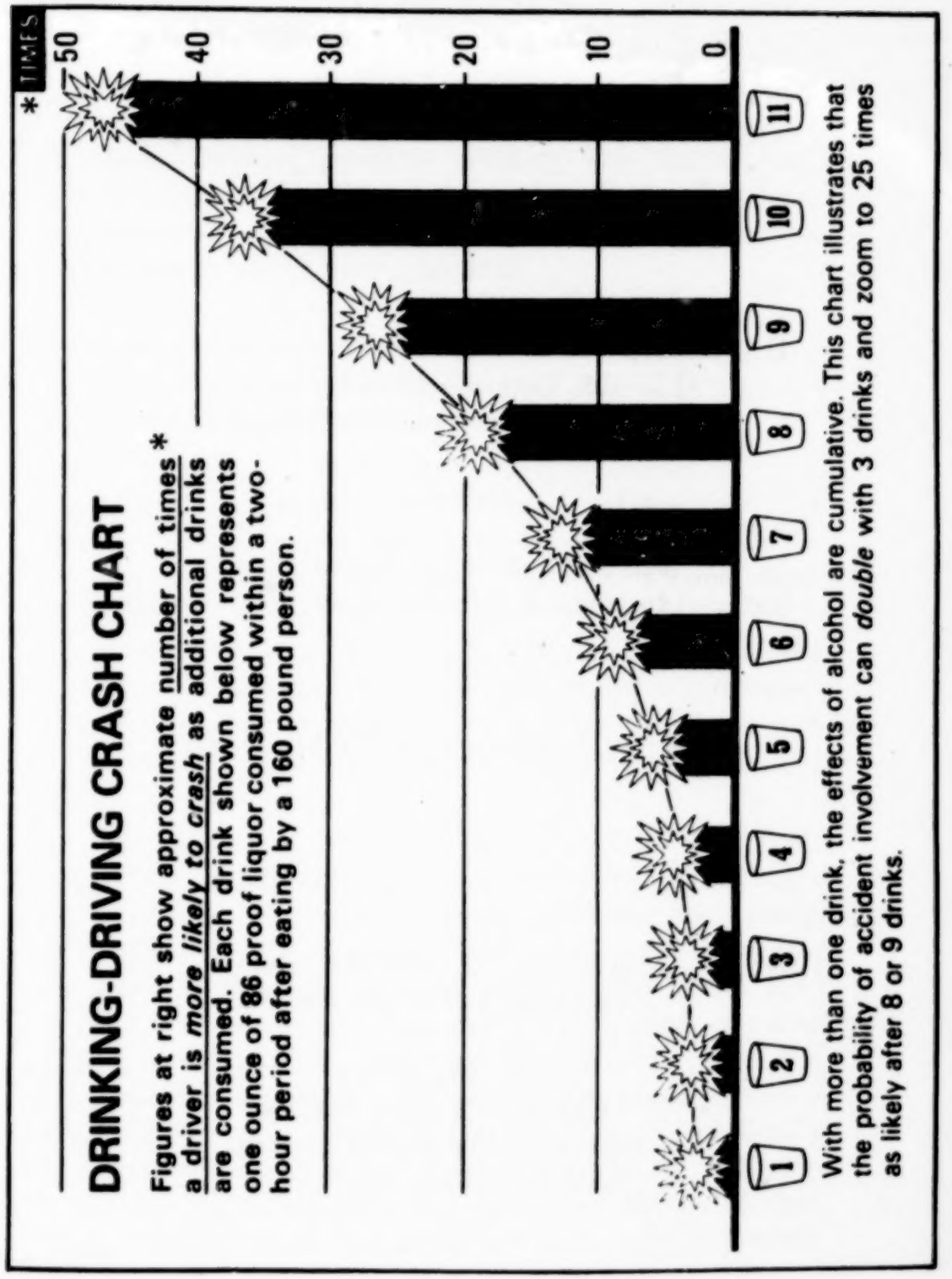
Adapted from a chart by Royal Canadian Mounted Police

*The rate of elimination of alcohol from the bloodstream is approximately 0.015% per hour. Therefore, subtract 0.015% from blood-alcohol concentration indicated on above charts for each hour after the start of drinking.

The examples above show the approximate *average* amount of 80 proof liquor a 150-pound person would have to consume in a one-hour period to reach 0.10%, the percentage-weight of alcohol in the bloodstream that is presumptive of intoxication.

To determine the approximate average number of ounces of 80 proof liquor needed in a one-hour period to reach 0.10%, draw a line from BODY WEIGHT to 0.10%. The line will intersect the average number of ounces needed to produce 0.10%. Follow the same procedure to determine the amount of liquor needed to reach other blood-alcohol concentrations, such as 0.05%, 0.15%, etc.

Charts show *rough averages only*. Many factors affect the rate of alcohol absorption into the bloodstream. Amount of food consumed, kind of food and drink consumed, and percentage of fatty tissue in the body, for examples, can vary blood-alcohol concentration values.



ITEM 21 — DEFENDANTS' EXHIBIT 8 (EXTRACT)

PROCEEDINGS OF THE JOINT CONFERENCE ON ALCOHOL ABUSE AND ALCOHOLISM

February 21-23, 1972

U.S. Department of Health, Education and Welfare
U.S. Department of Justice
U.S. Department of Transportation

National Institute of Mental Health
National Institute on Alcohol Abuse and Alcoholism

DHEW Publication No. (HSM) 73-9051

• • •

[109] **YOUTH, ALCOHOL, AND COLLISION-INVOLVEMENT**

Richard Zylam
Center of Alcohol Studies
Rutgers — The State University
New Brunswick, New Jersey

• • •

[110] Usage is more prevalent among urban youth than among rural and small-town youth.

There are strong religious and ethnic influences at work. A majority of Jews are users of beverage alcohol but indications of problem drinking are almost non-existent. Catholic youth and those who claim no religious affiliation are among the more frequent users, with a higher proportion of heavy drinkers.

• • •

[118]

Does Driving After Drinking Among Youthful Drivers Account For Their High Frequency of Collision-Involvement?

The Grand Rapids Study established the fact that elevated BAC's were the most important variable in collision-involvement and that age was second most important. That the young and the very old drivers have the poorest collision experience and middle-age drivers appear in collisions less often than would be expected has already been discussed. The question now arises as to whether that overinvolvement of youth is related to the use of alcohol.

In another earlier paper also based on data from the Grand Rapids Study, Zylam (64) stratified the data into eight 3-hour periods to re-examine the relationship of collision-involvement to alcohol and various demographic characteristics as they were related to the time of day. It was found that the frequency of elevated BAC's varied widely over time of day and so did the mixture of demographic variables. For example, between 3 a.m. and 6 a.m., 22 percent of the control had BAC's of 0.05 percent and higher, but between 9 a.m. and noon just 0.3% (three in every thousand) had BAC's in that range, and between 3 a.m. and 6 a.m. only 6 percent

of the control drivers were female as compared with 26 percent between noon and 3 p.m. These are just two examples of many such differences found.

These wide variations in the makeup of the driving population over time of day were reflected in the collision-involvement of every variable examined. In the post-midnight hours, even drivers with BAC's as high as 0.07 percent appeared in collisions less often than those who had nothing to drink, but in rush-hour traffic the very low BAC's appeared in collisions slightly more often than those who had nothing to drink. The collision-involvement of the different age groups also varied over time of day. It is [120] quite likely that those variations are dependent on such variables as the mix of demographic characteristics, density of traffic and experience in coping with traffic problems, purpose for driving, and the use or non-use of alcohol.

Table 4 shows the distribution of age groups among the control and collision drivers between 6 a.m. and 9 a.m. and the collision-involvement indices as derived from a chi-square analysis. Again it can be seen that the young and old drivers are overrepresented in the collision column. The 16- and 17-year old drivers appear in collision 75 percent more often than would be expected from their representation in the population-at-risk during that period, and the other age groups under 25 years also appeared in collisions substantially more often than expected. Is this overrepresentation related to the use of alcohol? The answer must be "no." Of 135 drivers under 25 years old in the control for that time period, just 4 — all of them older than 20 years — had been drinking, and among 132 drivers between 16 and 24 years old who were involved in collisions during that period, just 2 had been drinking. In fact, of 795 drivers

TABLE 3.

DISTRIBUTION OF AGE GROUPS AMONG THE CONTROL DRIVERS AND COLLISION-INVOLVED DRIVERS IN GRAND RAPIDS, WITH COLLISION-INVOLVEMENT INDICES

Age Groups		15-19	20-24	25-34	35-44	45-54	55-64	65-74	75-Older	Totals
Control group	N	689	950	1608	1682	1317	767	292	49	7354
	%	9.37	12.92	21.87	22.87	17.91	10.43	3.97	0.67	100.00
Collision group	N	1482	1612	1910	1708	1192	855	425	125	9309
	%	15.92	17.32	20.53	18.35	12.80	9.18	4.57	1.34	100.00
Totals	N	2171	2562	3518	3390	2509	1622	717	174	16663
	%	13.03	15.38	21.11	20.34	15.06	9.73	4.30	1.04	99.99
Collision involvement index[1]		+22.19	+12.63	-2.82	-9.81	-14.96	-5.64	+6.10	+28.59	

Sources: Previously unpublished data from Grand Rapids Study. $X^2 = 330.89$: d.f. 7; $p < .001$

1 See Table 2, Footnote 2.

TABLE 4.
DISTRIBUTION OF AGE GROUPS AMONG ALL TESTED CONTROL DRIVE AND ALL TESTED COLLISION-INVOLVED DRIVERS IN GRAND RAPIDS BETWEEN 6 A.M. AND 9 A.M., WITH COLLISION-INVOLVEMENT INDICES[1]

Age Groups		16-17	18-19	20-24	25-34	35-44	45-54	55-64	65-69	70-Older	Totals
Control group	N	8	38	89	178	176	182	97	19	8	795
	%	1.01	4.78	11.19	22.39	22.14	22.89	12.20	2.39	1.01	100.00
Collision group	N	17	40	75	116	111	70	53	14	7	503
	%	3.38	7.94	14.91	23.06	22.07	13.92	10.54	2.78	1.39	100.00
Totals	N	25	78	164	294	287	252	150	33	15	1298
	%	1.93	6.01	12.63	22.65	22.11	19.41	11.56	2.54	1.16	100.00
Collision involvement index[2]		+75.47	+32.33	+18.01	+1.82	-0.20	-28.32	-8.82	+9.48	+20.42	

Source: Data from Grand Rapids Study. $X^2 = 31.71$; d.f.8; $p < .001$

1. Cases in which the driver may have refused to cooperate, or in which a collision-involved driver was not tested, or in which the breath specimen was lost through mechanical failure are not included in these data; hence, the term "tested."

2. See Table 2, Footnote 2.

of all ages in the control during that period, just 8 had BAC's of 0.05 percent and higher, and of 503 drivers involved in collisions, just 10 were in that range. When all drivers with positive BAC's were deleted from the data and the chi-square analysis repeated, the resulting collision-involvement indices were almost identical to those shown in Table 4; if anything, the young and old drivers showed up slightly worse. This similarity in results, with both tests showing very high-collision-involvement rates for the very young driver is probably achieved because there were very few drinkers on the streets at that time and, without the modifying effects of alcohol, the problems related to youth and driving experience overshadowed the effects of alcohol and other variables.

A similar series of tests was run for each 3-hour period of the day but for the sake of brevity, only the period between 9 p.m. and midnight will be discussed. These are leisure hours when more drinking can be expected and when much driving is done for recreational purposes; it is reasonable to assume that the two activities might be combined by some drivers. Tables 5 and 6 show the distribution of BAC's among the various age groups in the control and collision groups for the period 9 p.m. to midnight, and it can be seen that there is a good deal of driving-after-drinking going on — even among young drivers.

If younger drivers were involved in more collisions than older drivers because of the excessive use of alcohol, it would be expected that: (a) young drivers would show a higher frequency of driving-after-drinking [124] than older drivers; and (b) that young drivers would have a worse collision-involvement index among all drivers, whether they had been drinking or not, than among alcohol-free drivers. A comparison of Tables 7

TABLE 5.
DISTRIBUTION OF BAC'S BY AGE GROUP AMONG CONTROL DRIVERS BETWEEN 9 P.M. AND MIDNIGHT
Blood Alcohol Concentration

Age Groups		0.00	0.01 0.04	0.05 0.07	0.08 0.10	0.11 0.14	0.15 Over	Totals	%
16-17	N	37						37	4.95
	%	100.0						100.00	
18-19	N	81	4	1				86	11.50
	%	94.19	4.65	1.16				100.00	
20-24	N	132	19	3		2		156	20.86
	%	84.62	12.18	1.92		1.28		100.00	
25-34	N	129	30	6	2			167	22.33
	%	77.25	17.96	3.59	1.20			100.00	
35-44	N	105	18	5	3	4	2	137	18.32
	%	76.64	13.14	3.65	2.19	2.92	1.46	100.00	
45-54	N	79	15	2	1	1	2	100	13.37
	%	79.00	15.00	2.00	1.00	1.00	2.00	100.00	
55-64	N	41	6	1	1	1		50	6.68
	%	82.00	12.00	2.00	2.00	2.00		100.00	
65-69	N	8	1					9	1.20
	%	88.89	11.11					100.00	
70-over	N	6						6	0.80
	%	100.00						100.00	
Totals	N	618	93	18	7	8	4	748	100.00
	%	82.62	12.43	2.41	0.94	1.07	0.53	100.00	

Source: Data from Grand Rapids Study.

and 8 shows that this is not true. In the absence of alcohol, age is an even more important predictor of collision-involvement. This happens because the higher BAC's are concentrated among the middle-age or "best" driving groups, and it can be assumed that those high

TABLE 6.
DISTRIBUTION OF BAC'S BY AGE GROUP AMONG COLLISION-INVOLVED DRIVERS BETWEEN 9 A.M. AND MIDNIGHT
Blood Alcohol Concentration

Age Groups		0.00	0.01 0.04	0.05 0.07	0.08 0 10	0.11 0.14	0.15 over	Totals	%
16-17	N	69	2					71	10.96
	%	97.18	2.82					100.00	
18-19	N	92	8	1	1	2	2	106	16.36
	%	86.79	7.55	0.94	0.94	1.89	1.89	100.00	
20-24	N	99	15	2	5	5	8	134	20.68
	%	73.88	11.19	1.49	3.73	3.73	5.97	99.99	
25-34	N	68	23	7	10	11	10	129	19.91
	%	52.71	17.83	5.43	7.75	8.53	7.75	100.00	
35-44	N	35	9	9	3	8	9	73	11.27
	%	47.95	12.33	12.33	4.11	10.96	12.33	100.01	
45-54	N	34	8	3	5	3	7	60	9.26
	%	56.67	13.33	5.00	8.33	5.00	11.67	100.00	
55-64	N	38	3	5	1	3	2	52	8.02
	%	73.08	5.77	9.62	1.92	5.77	3.85	100.01	
65-69	N	8					1	9	1.39
	%	88.89					11.11	100.00	
70-over	N	12			1		1	14	2.16
	%	85.71			7.14		7.14	99.99	
Totals	N	455	68	27	26	32	40	648	100.01
	%	70.22	10.49	4.17	4.01	4.94	6.17	100.00	

Source: Data from Grand Rapids Study.

BAC's are accompanied by some impairment. When the positive BAC's are removed from the data the impaired drivers are also removed, so the "best" age groups become better and the "worst" age groups show up relatively worse. It must be concluded that characteristics

related to age are more important to the collision-involvement of youth and old age than alcohol.[1]

Are Youthful Drivers More Likely To Be Involved In Collisions At Lower BAC's Than Older Or More Experienced Drivers?

Because age seems to be a stronger factor than alcohol in the collision-involvement of youth, it does not follow that alcohol can be ruled out as a causal factor in some youthful collisions. Tables 5 and 6 show that some of the youthful Grand Rapids drivers had been drinking and that the positive BAC's are more frequent among the collision-involved drivers than in the control group. Hyman (48) examined the collision-vulnerability and BAC's in the Grand Rapids Study by demographic characteristics and found that young drivers are more likely to be involved in collisions at low BAC's than older drivers. Table 9 presents his calculations by age, sex, and BAC. It can be seen that young drivers (and old drivers) especially males, have a higher vulnerability ratio than intermediate age groups at each BAC and that the different between age groups increases at each level of BAC. For male drivers under 18, who already had the highest vulnerability ratio at 0.00 BAC, the ratio increased three-fold even at the one-or-two drink level. There was not sufficient data to carry the test further for that age group. For the males 18 to 19 years old the collision-vulnerability ration increased from 1.55 at 0.00 percent BAC to 2.29 at 0.01-0.04 percent, and 4.17 at the 0.05-

[1]It is worth noting that, given this method of analysis, older drivers have a collision experience as bad or worse than that of young drivers and that their involvement index is much worse during hours of darkness than in daylight (Tables 4-8). This suggests the need for more study of the gerontological changes that may affect the operation of motor vehicles.

0.09 percent BAC level. The vulnerability ratio for 20 to 24 year old males was the same (1.12) at both the 0.00 percent level and at the 0.01-0.04 percent level, but increased to 1.78 at 0.05-0.09 percent and 9.38 at 0.10 percent BAC and higher, and the ratio for drivers between 35 and 64 years old was lower at BAC 0.05-0.09 percent than for drivers under 20 who had nothing to drink. This seems to reconfirm the earlier statement by Zylam (67) and laboratory work by Carpenter *et al.* (68), that experienced drinkers, who are also quite likely experienced drivers, can indulge in small amounts of alcohol and still perform better than the less proficient drivers who had nothing to [128] drink. This could be true even though they may have deteriorated from their pre-drinking proficiency.[1]

Drivers over 69 years old have a vulnerability ratio very similar to that of teenagers, although probably for very different reasons.

Is There A Stronger Relationship Between Youthful Drinking and Fatal Crashes Than Between Youthful Drinking and "All" Collisions?

The most recent studies of fatal crashes show that a disproportionate number of them involved drivers under 25. It is often stated that many of those younger drivers, especially those between 20 and 25 years old, had engaged in heavy drinking prior to their fatal trip. Although even one such case might be judged too many, younger drivers killed in crashes actually show lower frequencies of alcohol-involvement than do those 5, 10,

[1]This indicates that the widely used curve from the Grand Rapids Study showing the probability of causing a collision at various BAC's cannot be applied indiscriminately to every age group. (67)

TABLE 7.
DISTRIBUTION OF AGE GROUPS AMONG ALL TESTED CONTROL DRIVERS AND ALL TESTED COLLISION-INVOLVED DRIVERS IN GRAND RAPIDS BETWEEN 9 P.M. AND MIDNIGHT, WITH COLLISION-INVOLVEMENT INDICES[1]

Age Groups		16-17	18-19	20-24	25-34	35-44	45-54	55-64	65-69	70-over	Totals
Control group	N	37	86	156	167	137	100	50	9	6	748
	%	4.95	11.50	20.86	22.33	18.32	13.37	6.68	1.20	0.80	100.01
Collision group	N	71	106	134	129	73	60	52	9	14	648
	%	10.96	16.36	20.68	19.91	11.27	9.26	8.02	1.39	2.16	100.01
Totals	N	108	192	290	296	210	160	102	18	20	1396
	%	7.74	13.75	20.77	21.20	15.04	11.46	7.31	1.29	1.43	99.99
Collision involvement index[2]		+41.62	+18.94	-0.46	-6.11	-25.11	-19.21	+9.83	+7.72	+50.80	

1 See Table 4, Footnote 1.

2 See Table 2, Footnote 2.

Source: Data from Grand Rapids Study.

$x^2 = 45.15$; d.f. 8; $p. < .001$

TABLE 8.
DISTRIBUTION OF AGE GROUPS AMONG ALCOHOL-FREE CONTROL DRIVERS AND ALCOHOL-FREE COLLISION-INVOLVED DRIVERS IN GRAND RAPIDS BETWEEN 9 P.M. AND MIDNIGHT, WITH COLLISION-INVOLVEMENT INDICES

Age Groups		16-17	18-19	20-24	25-34	35-44	45-54	55-64	65-69	70-over	Totals
Control group	N	37	81	132	129	105	79	41	8	6	618
	%	5.99	13.11	21.36	20.87	16.99	12.78	6.63	1.29	0.97	99.99
Collision group	N	69	92	99	68	35	34	38	8	12	455
	%	15.16	20.22	21.76	14.95	7.69	7.48	8.35	1.76	2.64	100.01
Totals	N	106	173	231	197	140	113	79	16	18	1073
	%	9.88	16.12	21.53	18.36	13.05	10.53	7.36	1.49	1.68	100.00
Collision-involvement index[1]		+53.51	+25.41	+1.07	-18.60	-41.04	-29.04	+13.43	+17.91	+57.21	

Source: Data from Grand Rapids Study.

$x^2 = 65.75$; d.f. 8; $p. < .001$

1 See Table 2, Footnote 2.

TABLE 9.
PERCENTAGES OF ACCIDENT-INVOLVED DRIVERS (A) AND OF CONTROL DRIVERS (C), AND ACCIDENT-VULNERABILITY RATIOS (A-VR), IN EACH AGE-SEX-BAC CATEGORY

	Blood Alcohol Concentration											
	0.00%			0.01%–0.04%			0.05%–0.09%			0.10%+		
	A	C	A-VR	A	C	A-VR	A	C	A-VR	A	C	A-VR
Sex[a]												
Men	63.3	69.3	0.91	5.8	6.8	0.85	3.2	2.2	1.45	5.5	0.8	6.88
Women	20.1	19.7	1.02	1.0	1.0	1.00	0.3	0.2	1.50	0.8	0.0	c
Age[b]												
Men												
<18	4.86	2.04	2.38	0.22	0.03	7.33	0.05	0.00	c	0.02	0.00	c
18–19	7.35	4.75	1.55	0.48	0.21	2.29	0.25	0.06	4.17	0.13	0.00	c
20–24	11.11	9.29	1.12	1.05	0.94	1.12	0.48	0.27	1.78	0.75	0.08	9.38
25–34	12.23	15.10	0.81	1.49	1.59	0.94	0.90	0.56	1.61	1.62	0.24	6.75
35–44	10.25	15.00	0.68	1.10	1.54	0.71	0.67	0.59	1.14	1.50	0.27	5.56
45–54	7.44	11.75	0.63	0.84	1.47	0.57	0.40	0.44	0.91	0.72	0.16	4.50
55–64	5.75	7.56	0.76	0.35	0.63	0.56	0.28	0.24	1.17	0.62	0.04	15.00
65–69	1.74	2.10	0.83	0.15	0.27	0.56	0.08	0.06	1.25	0.13	0.01	13.00
70–74	1.47	0.78	1.88	0.10	0.04	2.50	0.07	0.03	2.33	0.05	0.00	c
75+	1.05	0.56	1.88	0.05	0.01	5.00	0.00	0.00		0.00	0.00	
Women												
<18	1.22	0.71	1.72	0.03	0.01	3.00	0.00	0.00		0.00	0.00	
18–19	1.81	1.56	1.16	0.05	0.06	0.83	0.02	0.01	2.00	0.05	0.00	c
20–24	3.56	2.38	1.50	0.22	0.10	2.20	0.03	0.04	0.75	0.03	0.00	c
25–34	3.49	4.16	0.84	0.20	0.24	0.83	0.08	0.07	1.14	0.20	0.00	c
35–44	4.34	5.03	0.86	0.23	0.30	0.77	0.12	0.06	2.00	0.25	0.00	c
45–54	2.76	3.71	0.74	0.13	0.18	0.72	0.07	0.03	2.33	0.07	0.00	c
55–64	1.92	1.82	1.05	0.07	0.08	0.88	0.00	0.01	0.00	.13	0.00	c
65–69	0.42	0.44	0.95	0.02	0.01	2.00	0.00	0.00	c	.02	0.00	c
70–74	0.32	0.17	1.88	0.02	0.00	c	0.00	0.00		.00	0.00	
75+	0.28	0.08	3.50	0.00	0.01	c	0.00	0.00		.00	0.00	

Source: Reproduced with permission from Quart. J. Stud. Alc., Suppl. No. 4, 1968.,p. 39.

a Total sex and BAC reported: 5988 accident-involved and 7529 control drivers.
b Total sex, age and BAC reported: 5983 accident-involved and 7092 control drivers.
c The ratio cannot be calculated since there are no controls.

and even 20 years their seniors. In Wayne County, Michigan (46) 11 percent of the drivers killed were under 20 years old, of whom 29 percent had BAC's of 0.10 percent or more; while for drivers from 20 to 25 years old (who represented 25 percent of all the driver fatalities), 63 percent had BAC's of 0.10 percent or higher. This compares with drivers from 26 to 35 years old who were killed, among whom 81 percent were at 0.10 percent BAC or higher and those from 36 to 45 years, among whom 73 percent were at that level.[2] Other studies also show low frequencies of high BAC's among young drivers as compared with middle-age drivers.

Initially, it must be recognized that a considerable portion of the overinvolvement of young drivers in fatal crashes may be explained by the greater exposure as described in previous pages. For example, in the Wayne County study the point is made that drivers between 16 and 25 years old comprised 36 percent of the fatalities but only 21 percent of the licensed population as represented in the Michigan Driver Profile (53). The figures relating to driver licenses here are derived from a random sample of the Michigan driver license files and do not allow for exposure. Supposing it were possible to determine the age distribution of all drivers using the highways at the times and places where those

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[2]Regarding these data, Filkins et. al. said "it is now known that the alcohol involvement of the younger crash-involved fatalities is less than that of their older fatality counterparts. Young people are more often involved in crashes, whether it be due to driving inexperience, drinking inexperience, or a combination of the two conditions perhaps exacerbated by more reckless attitudes about driving." (46)

Wayne County fatal crashes occurred and it was learned that 30 percent of the drivers are under 25 rather than the 21 percent as shown in the driver license files; then the [129] overinvolvement of this age group would be reduced by more than 70 percent. If it were found that 36 percent of the drivers on the highways at the times and places of fatal crashes were in that age group,[1] then there would be no overinvolvement of drivers under 25; they will have appeared in collisions in direct proportion to their representation in the driving population.[2] This point must be made because failure to allow for exposure inflates the problem of traffic deaths as it relates to youth. This may be a major source of the alarm over youth involvement in fatal crashes.

It is difficult to reconcile the figures found in studies of fatal crashes with the information presented earlier regarding youthful drinking, youthful driving-after-drinking, and youthful involvement in "all" collisions after drinking. It cannot be said that the large number of alcohol-related fatal crashes involving youth reflect orgy-like drinking on the part of a major segment of the

[1]In Washtenaw County, adjacent to Wayne County, the survey of drivers in the nighttime traffic showed that more than 48 percent of them were 16 to 25 years old. However, this is probably an unusual situation because two large Universities are located in the sample area. (42)

[2]In the only bonafide controlled study of fatal crashes that appears in the literature, McCarroll and Haddon (55) reported "The case subjects were suggestively *older* [emphasis theirs] in both responsible and questionably responsible groups. However, the differences were not statistically significant. As a result, no age adjustment has been made in the case-control comparisons which follow."

young driver population; nor can it be said that large numbers of young drivers are driving after drinking huge quantities of beverage alcohol. It is more likely that those who are involved in fatal crashes while intoxicated are a typical group, a small group with characteristics that set them apart from the majority of young drivers. A number of studies have already identified such unique characteristics among drivers involved in fatal crashes after heavy drinking as well as among those convicted of driving while intoxicated or impaired, or who are just "bad drivers" (40, 44, 45, 47, 48, 52, 56-63). There is an urgent need to synthesize the studies from the fields of sociology, psychiatry, psychology, education, and other disciplines regarding the problem driver, with the work done in what is generally called the alcohol problem field. Much is known in that field about the etiology of "problem people" which would logically be applicable to the traffic field; however, it is not being used. Knowledge about cultural and religious influences, socioeconomic status, parental practices and family relationships, peer-group pressures and sex identification as they are reflected in drinking practices and attitudes toward drinking must be applied to the alcohol-involved traffic problems field so that this small but tragically important group of problem drinker-drivers can be identified at an earlier age — when major difficulty may still be prevented.

[130]

SUMMARY AND CONCLUSIONS

A survey of the literature reveals that, while there is great national concern about something called "alcohol and youth," there is little in objective studies to show that excessive drinking (or its usual disapproved accompanying behaviors) is even as frequent in this age cate-

gory as in any of the succeeding 5-year age brackets. In fact, the extent of such problems is markedly less among those usually labeled as youth or teenagers. Many teenagers drink, and by the age of 18 or 19 a majority use beverage alcohol at least occasionally. It is well established that youthful drinking reflects the attitudes and practices of their parents and the influence of cultural and religious backgrounds. Drinking among youth, like drinking among adults, is a societal function and, as among adults, a small minority drink intemperately. This minority frequently engages in other antisocial behavior as well. There is no evidence that the antisocial behavior is caused by alcohol alone. Rather, it is believed that both forms of aberrant behavior reflect the same or similar underlying character or personality problems and the same or similar stressful situations.

The practice of driving after drinking by young people is not as widespread as generally believed. Under the age of 18, driving after drinking is quite rare However, the frequency and intensity of driving after drinking increases rapidly for drivers 18 and 19 years old and the practice for those who are 20 to 25 years old resembles those who are older than 25. The heaviest frequency and greatest intensity, however, occur in various age groups between 25 and 54, depending on which studies are considered.

Young drivers are involved in disproportionate numbers of collisions. However, when allowances are made for exposure by comparing collision-involved drivers with drivers using the highways at the times and places of collision occurrences, rather than with the driver license files, their reported overinvolvement is cut by half. At the same time, using this measurement, the collision-involvement index for drivers over 69 years old is increased several fold. Drivers between 25 and 69

appear in collisions less often than would be expected on the basis of the population-at-risk. Collision-involvement indices also vary widely over the time of day.

Young drivers are not involved in more collisions than older drivers because of the use of alcohol. If that were the case, one would expect to find that young drivers drive more often after drinking than older drivers, and that the collision-involvement index for young drivers would be worse when drinking and nondrinking drivers were considered together than when nondrinkers were considered separately. Neither hypothesis is true. A greater number and proportion of drivers between 25 and 69 is found at every BAC above 0.00 percent. When the age distributions are examined by chi-square, the collision-involvement indices for both the very young and very old drivers are worse when just the nondrinkers are considered than when all drivers are included.

[131] In spite of the less significant role of alcohol in highway crashes involving youth, there is an important relationship of alcohol to youth-involvement in collisions which sharply differentiates them from the other age categories up to age 69. This concerns the impact of small amounts of alcohol; i.e., those resulting in BAC's which are positive but less than 0.05 percent. Among teenagers such low concentrations are an important component in crashes, whereas in all other groups up to age 69 such concentrations are of no significance at all. There is evidence that drivers under 18, who already have the worst collision-vulnerability ratio with nothing to drink, increase that vulnerability threefold after just one or two drinks. At that level (0.01-0.04 percent BAC) all age groups between 25 and 69 appeared in collisions less often than in the control.

Drivers under 25 years old appear to be involved in disproportionate numbers of fatal crashes. However,

whether or not that disproportion is attributable to the heavy use of alcohol is open to question on at least three points: (a) if allowances were made for exposure, the overinvolvement of young drivers would quite likely be reduced substantially; (b) some of the deaths among young drivers probably occur after light to moderate drinking — the kind of drinking that would not have lead to a fatal crash if the driver had been more experienced in either drinking or driving or both; (c) it seems plausible that at least a portion of the youthful fatalities might be attributable to problems associated with youth and inexperience rather than alcohol.

Finally, we cannot blithely explain away a major part of the fatal crash problem among youth and dismiss the remainder as "expected." The fact remains that thousands of young drivers die each year and a substantial number of these unnecessary deaths are related to some use of alcohol. The implication of this paper is that we must put the various sub-problems in their proper perspective before we can make a rational attack on the whole problem. There is a need to apply the knowledge and skills of the alcohol problems field to the alcohol-traffic problem. This would allow both identification of problem people at an earlier age and, hopefully, also prevention of problem drivers. It would also allow identification of problem types of drinking (clearly different for young as compared with older persons) and allow attack on this aspect of unnecessary death and injury on the highways.

ITEM 22 — DECISION (MEMORANDUM OPINION) (REFERENCE)

[The decision (Memorandum Opinion) of the District Court herein appealed is reported at 399 F.Supp. 1304, and is reproduced at Appendix A to the Jurisdictional Statement herein.]

ITEM 23 — JUDGMENT (REFERENCE)

[The formal Judgment herein, entered on May 17, 1975, is unreported, but is reproduced at Appendix B to the Jurisdictional Statement herein.]

CERTIFICATE OF SERVICE

I, Frederick P. Gilbert, a member of the Bar of this Honorable Court and counsel of record for the Appellants herein, do hereby certify that I served three copies of this Appendix upon counsel for all Appellees herein, to wit: upon the Hon. Larry Derryberry, Attorney General of the State of Oklahoma, by mailing the same to him at his office in the State Capitol Building, Oklahoma City, Oklahoma, Attn: Mr. James Gray, Assistant Attorney General, this _____ day of February, 1976, with first class postage thereon fully prepaid.

All Parties required to be served have been served.

FREDERICK P. GILBERT
Attorney for Appellants